

NEW ORLEANS, LA, DISTRICT

District comprises a portion of Louisiana, embraced in drainage basins tributary to Mississippi River and Gulf of Mexico, except Mississippi River above mile 325.5 above Head of Passes (AHP), drainage area of Ouachita-Black River Basin, and small eastern and western portions of Louisiana tributary to Pearl River and Sabine River and Lake. The New Orleans District territory encompasses 30,000 square miles.

It includes sections of the Gulf Intracoastal Waterway from Lake Borgne Light 29 at the mouth of Pearl River to Sabine River, and the Passes of the Mississippi River. It exercises jurisdiction over flood control work on Mississippi River from mile 325.5 AHP to Gulf of Mexico; Atchafalaya River; and in Atchafalaya Basin; and maintenance of project navigation channel of Mississippi River below mile 325.5 AHP, under supervision of President, Mississippi River Commission (MRC), and Division Engineer, Mississippi Valley Division.

IMPROVEMENTS

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1. INNER HARBOR NAVIGATION CANAL LOCK, LA

Location. The project is located within the city of New Orleans, Louisiana. It is a deep and shallow draft canal extending northward from the Mississippi River to Lake Pontchartrain.

Existing project. The existing Inner Harbor Navigation Canal Lock, built in 1920 by the Port of New Orleans, has dimensions of 31.5 feet deep, 75 feet wide, and 640 feet long (usable length). It passes barge traffic between the Mississippi River and the Gulf Intracoastal Waterway and is a vital link in the nation's Inland Waterway System. Delays to the navigation traffic average about 11 hours, with 24-36 hour delays common. The average yearly tonnage through the lock is about 20 million tons, 2/3 of which is coal, petroleum products, and crude petroleum. Other major commodities include metallic ores, industrial chemicals and non-metallic minerals. Two major vehicular roadway bridges (Claiborne and St. Claude Avenues) and one railroad/roadway bridge (Florida Avenue) cross the canal in the vicinity of the existing lock. The Corps of Engineers bought the lock from the Port of New Orleans in 1985.

Local cooperation. The cost sharing for the replacement lock is specified in the Water Resources Development Act of 1986. The costs of the new lock were apportioned between general cargo navigation and inland navigation. Costs assigned to inland navigation are shared 50 percent from the Inland Waterway Trust Fund and 50 percent from regular Corps of Engineer's appropriations. Those costs assigned to general cargo navigation, will be cost shared 65 percent Federal and 35 percent non-Federal, with the Port of New Orleans, who signed a non-Federal Project Cooperation Agreement (PCA) in Sep. 2001. The Recommended Plan is 40 feet deep by 110 feet wide by 1200 feet long (usable length) and is estimated to cost \$635,000,000.

Terminal facilities. Two container ship berths and one other ship wharf are located on the canal in the vicinity of the existing lock.

Operations and results during the fiscal year. Detailed engineering and design for the replacement lock and Community Impact Mitigation Plan has continued. The TERC contract work continued in FY 03.

Condition as of Sep 30. Initiation of construction was authorized in the FY 99 Appropriations Act. Demolition of existing facilities on both banks of the

canal between Claiborne Ave. and Florida Ave. began in FY 01 and continued through FY 03.

2. MISSISSIPPI RIVER-GULF OUTLET, LA

Location. In State of Louisiana and the territorial waters of the United States and extends from existing Inner Harbor Navigation Canal at a point 7,500 feet north of existing IHNC lock and about 11,000 feet from Mississippi River, to a turning basin south of Michoud, LA, and then as a land and water cut from turning basin south of Michoud, LA, southeasterly to and along south shore of Lake Borgne and through marshes to and through Chandeleur Sound to 38-foot contour in Gulf of Mexico. (Refer to NOAA Coast Charts Nos. 11340, 11360, 11363, 11369, 11371, and 11373. Also see MRC 1989 (57th edition) folio of maps, Mississippi River-Cairo, IL, to Gulf of Mexico, LA.)

Existing project. Provides for a seaway canal, 36 by 500 feet, extending 76 miles as a land and water cut from Michoud southeasterly to and along south shore of Lake Borgne, and across Chandeleur Sound to Chandeleur Island and increasing gradually to 38 by 600 feet in Gulf of Mexico, with protective jetties at entrance, a permanent retention dike through Chandeleur Sound, and a wing dike along islands as required. It also provides for an inner tidewater harbor consisting of 1,000- by 2,000-foot turning basin 36 feet deep at landward end of seaway canal, and a connecting channel 36 by 500 feet wide extending easterly along Gulf Intracoastal Waterway from turning basin, including construction of a suitable highway bridge with approaches to carry Louisiana State Highway 47 (formerly 61) over channel. Plan further provides for future construction of a channel and lock in the vicinity of the existing lock to furnish an additional connection between tidewater harbor and Mississippi River. (See "Inner Harbor Navigation Canal Lock, LA" for more details).

Reevaluation studies to determine the economic feasibility of continuing to maintain the 36-foot depth in the channel were initiated in FY 99, all at Federal expense. Concerns about increased maintenance dredging costs and ecosystem deterioration prompted the study.

Local cooperation. Requirements of local cooperation are fully described on page 11-4 of FY 1986 Annual Report.

Terminal facilities. A public facility on the waterway is the Public Bulk Terminal of New Orleans constructed by Board of Commissioners, Port of New Orleans, on left descending bank at Mile 63. Two

container ship berths are in operation at the Industrial Canal end of the seaway.

Operations and results during fiscal year. Three dredging contracts for removal of material from the channel at a cost of \$17,000,000 were awarded in FY 03.

Condition as of Sep. 30. Construction was initiated March 1958. The channel unit is 90 percent complete and the shiplock unit is 0 percent complete. The total project is 75 percent complete. The channel was opened to navigation Jul. 25, 1963, and completed Jan. 20, 1968. Paris Road Bridge was opened to traffic Jul. 21, and completed Nov. 14, 1967. The foreshore protection, south bank, Chalmette Area, Station 367+00 to Station 1007+00 is complete.

3. MISSISSIPPI RIVER SHIP CHANNEL, GULF TO BATON ROUGE, LA

Location. The project is located in the southeastern portion of Louisiana below Baton Rouge, and consists of the Mississippi River and its major outlet to the Gulf of Mexico, Southwest Pass.

Existing project. Provides more efficient deep-draft navigation access to the New Orleans and Baton Rouge reaches of the Mississippi River via Southwest Pass by enlarging the existing channel to a project depth of 55 feet and enlarging the adjacent channel along the left descending bank in New Orleans Harbor to a 40-foot depth, a turning basin at Baton Rouge, and training works in the passes to reduce maintenance.

Estimated cost of existing project (Oct. 1, 2002) is \$189,800,000 Federal and \$475,000,000 non-Federal. In addition, the Coast Guard is to provide navigation aids at an estimated cost of \$1,200,000.

Local cooperation. Requirements are described in full on pages 11-2 and 11-3 of the FY 92 Annual Report.

A third supplement to the LCA addressing the Permanent Saltwater Intrusion Mitigation Plan was executed on May 28, 1993.

A Project Cooperation Agreement (PCA) between the Government and the State of Louisiana was executed on Sep. 3, 1993 which provides for the dredging of a 45-foot channel from Mile 181 AHP to Baton Rouge.

Operations and results during fiscal year. Construction is underway on the permanent mitigation plan. The permanent mitigation plan consists of the

Government constructing an underwater sill, when needed, at Mile 64 AHP to prevent the intrusion of saltwater into water supplies of the metropolitan New Orleans area. The plan also provides for upgrading the Plaquemines Parish water distribution system to provide fresh water to water treatment plants impacted by increased saltwater intrusion caused by the deeper channel. A supplemental LCA for this work was executed on May 28, 1993. The underwater sill was constructed during FY 99 due to extremely low flows in the river which allowed salt water to threaten up river water supplies. The sill was successful in preventing impacts to these facilities.

We have initiated work on the General Design Memorandum for the remaining authorized features of the project. This includes the deepening of the Mississippi River to 55 feet from the Gulf of Mexico to Baton Rouge.

Condition as of Sep. 30. The 45-foot channel is completed from the Gulf to Baton Rouge. Construction of the permanent mitigation plan is underway. Work on the General Design Memorandum for the remaining authorized features continues.

4. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Sec. 107, Public Law 86-645, as amended (preauthorization).

Preauthorization studies costs for FY 02 were Section 107 Coordination, \$10,000, Port Fourchon Extension for \$19,507, Short Cut Canal for \$18,978 and Cameron Oil Port for \$27,218.

Flood Control

5. AMITE RIVER AND TRIBUTARIES, LOUISIANA, EAST ROUGE PARISH WATERSHED

Location. In East Baton Rouge Parish, LA, consisting of the following five watersheds in the metropolitan Baton Rouge area: Jones Creek, Ward Creek, Bayou Fountain, Beaver Bayou, and Blackwater Bayou.

Existing project. The project will provide protection to residents of the metropolitan Baton Rouge area by reducing stages in the five waterways through clearing and snagging, earthen channel improvement and concrete lining of the waterways. The authorized project consists of modifying approximately sixty-six (66) total miles of channel. This involves approximately

twenty-five (25) miles of minimal channel clearing and snagging, twenty-four (24) miles of earthen channel enlargement, and seventeen (17) miles of channel concrete lining. Included in the proposed construction are sixty (60) miles of stream bank aesthetic tree planting. Fish and wildlife mitigation features consist of the reforestation of 397 acres of cleared land to compensate for an estimated 280 acres of bottomland hardwoods that would be lost to project construction. The authorized channel modifications for Beaver Bayou, Ward Creek, and Bayou Fountain are designed to have a ten percent chance of being out of bank in any one year. Blackwater Bayou and Jones Creek channel modification are designed to have a four percent and two percent chance, respectively, of being out of bank in any one year. The proposed project would reduce the extent of the Federal Emergency Management regulatory flood plain throughout the area. The estimated first costs at the October 2002 price levels is \$167,705,000 (\$108,408,000 – Federal, \$59,297,000 – non-Federal).

Local cooperation. The cost sharing provisions contained in the Water Resources Development Act of 1999 require that local interests shall provide cost sharing in accordance with the Chief of Engineers report dated December 23, 1996. The project requires that the local sponsor provide all land, easements, rights-of-way, relocations, and disposal areas (LERRD's) needed for project construction. In lieu of a portion of the cash contribution, the sponsor will perform work-in-kind, including design, construction and management of the proposed channel modifications for the Bayou Fountain Watershed, and perform all necessary clearing and snagging for channel modification on Beaver Bayou, Blackwater Bayou, Weiner Creek and Dawson Creek. Cost sharing for the flood damage reduction features is in accord with the cost sharing specified by the Water Resources Development Act of 1986 (WRDA 1986), as amended by Section 202(a) and 202(c) of the Water Resources Development Act of 1996 (WRDA), and the Consolidated Resolutions Appropriation 2003.

Condition as of Sep. 30. A Post Authorization Change has been submitted for HQUSACE review. Once the PAC has been approved, a supplemental Chief's report is anticipated that would increase the work-in-kind provisions.

6. COMITE RIVER (DIVERSION), LA

Location. In East Baton Rouge Parish, LA, between the Comite River and the Profit Island Chute of the Mississippi River, north of the town of Baker, LA, and south of the town of Zachary, LA.

Existing project. The project will provide protection for residents of the Comite River Basin by reducing stages in the river below the diversion point for events up to the 100-year flood event, and containing within banks events up to the 10-year flood event. The authorized project consists of construction of an eight-mile diversion channel from the Comite River to an outfall into Lilly Bayou, and then a four-mile diversion along Lilly and Cooper Bayous to the Profit Island Chute of the Mississippi River. The project also includes a diversion structure in the new channel near the diversion point, and an outfall structure near and at the outfall into Lilly Bayou, and four control structures at the intersections of Whites, Cypress and Baton Rouge Bayous, the fourth near McHugh Road. Disposal areas will be constructed along both banks of the new channel to retain the flood waters from the Comite River along both side of the new channel, and clearing and snagging of White, Cypress and Baton Rouge Bayous north of the diversion channel will also be done. Mitigation for the project includes the planting of trees on cleared land near the diversion point and on portions of the disposal area, the protection and management of existing forested lands near the diversion point. Upgrading two gauging stations and installing six new gauging stations to assist in flood prediction is also included in the project. The current approved cost of the project is \$163,000,000, including \$115,000,000 Federal cost and \$48,000,000 non-Federal cost. The Water Resources Development Act of 1999 authorized the Secretary to include the costs of highway relocations to be cost shared as project construction features.

Local cooperation. The cost sharing provisions contained in the Water Resources Development Act of 1986 require that local interests shall: (a) Provide to the Federal Government all lands, easements, rights-of-way, and dredged material disposal areas, and perform the necessary relocations required for construction, operation, and maintenance of the project (Current estimate is \$39,610,000); and (b) Provide to the Federal Government a cash contribution equal to 5 percent of the total cost of the project, excluding cultural resources (Current estimate is \$8,390,000). The total cost of items (a) and (b) mentioned above is limited to 50 percent of the total cost of the project.

Operations and results during the fiscal year. In FY 03, efforts continued with pre-construction, engineering and design and the award of the Lilly Bayou Control Structure.

Condition as of Sep. 30. Construction for the Lilly Bayou Control Structure, Phase 1, was initiated in

FY 03, as well as continuing right-of-way acquisition and E&D of other project features.

7. GRAND ISLE AND VICINITY, LA

Location. In south Jefferson Parish, LA, along the Gulf of Mexico, about 50 miles south of New Orleans and 45 miles northwest of Southwest Pass (Mississippi River).

Existing project. The project provides protection from waves driven by hurricanes that have a frequency of recurrence of up to once in every 50 years. The plan consists of a berm and vegetated dune extending the length of Grand Isle's gulf shore and a jetty to stabilize the western end of the island at Caminada Pass. The dune has a 10-foot-wide crown at an elevation of 11.5 feet NGVD, 1 on 5 side slopes, and protective vegetation. The sandfill berm slopes from an elevation of 8.5 feet NGVD at the toe of the dune 180 feet gulfward to an elevation of 3 feet NGVD and, from this point, assumes its natural slope to the offshore bottom. The jetty provided by the plan has a top width of 6 feet at an elevation of 4 feet mean sea level, 1 on 2 side slopes, and extends approximately 3,600 feet along the western end of the island at Caminada Pass. Estimated cost of project (October 1991) is \$20,933,000 Federal and \$12,567,000 non-Federal, including \$7,157,484 contributed funds. The repair and restoration of Grand Isle were accomplished by two separate contracts. The jetty extensions and sand bar removal contract (partial fix), was completed in early 1988. The dune repair and structural reinforcement contract was physically completed Sep. 4, 1991. The project has been turned over to the State of Louisiana for operation and maintenance.

The 1992 Dire Emergency Supplemental Appropriations Act provided funds to repair damage to the wave berm and dune caused by Hurricane Andrew and to add offshore breakwaters to the project as an integral part of the repair. The original plan was to construct 27 breakwater segments; however, only 23 breakwater segments were constructed due to limited federal funds. 19 additional breakwater segments were built in the summer of 1999 by the local sponsor.

Local cooperation. Requirements are described in full on page 11-4 of the FY 92 Annual Report. An additional \$4,750,000 was deposited in escrow to complete restoration of the dune which was completed on Sep. 4, 1991. The existing sand and beach dune have been damaged as a result of a series of storms between 1998 and 2002. PL-99 Federal assistance was approved to repair the damages caused by the latest Hurricane Lili and Tropical Storm Isidore. A sponsor's contractor

will do the renourishment and the Corps will reimburse the 12% cost share.

NORTH SHORE PROJECT

The Water Resources Development Act of 1996 authorized construction of \$17 million of additional improvements to the region subject to approval of a report justifying the improvements. The District received \$250,000 to initiate the study. The study is considering improvements, building breakwaters along the north side of the island, and the north side of Fifi Island.

The Water Resources Development Act of 1999 authorized the Secretary to consider shore protection benefits that the project provides to the main land coast of Louisiana.

The study is continued in FY 03 with a Congressional aid of \$213,000.

8. LAKE PONTCHARTRAIN AND VICINITY, LA (HURRICANE PROTECTION)

Location. In southeastern Louisiana, vicinity of New Orleans, in St. Charles, Jefferson, Orleans, St. Bernard, and St. Tammany Parishes, comprising lower land and water area between the Mississippi River alluvial ridge and the Pleistocene escarpment to north and west. The dominant topographic feature is Lake Pontchartrain, a shallow tidal basin, about 640 square miles in area and averaging 12 feet deep, connecting with lesser Lake Maurepas to the west and through Lake Borgne and Mississippi Sound to the Gulf to the east. The lake drains about 4,700 square miles of tributary area. (Refer to Geological Survey quadrangles Yscloskey and Malheureaux Point, Drum Bay, Door Point, Lake Eugenie, Oak Mound Bayou, Mitchell Keys, Lake Eloi, and Morgan Harbor; Engineer quadrangles Slidell, Covington, Ponchatoula, Springfield, Denham Springs, Donaldsonville, Mt. Airy, Bonnet Carre', Spanish Fort, Chef Menteur, Rigolets, St. Bernard, New Orleans, and Hahnville; and Coast and Geodetic Survey Charts Nos. 1115 and 1116.

Existing project. Provides protection to that part of the greater New Orleans area east of the Mississippi River and other communities bordering Lake Pontchartrain from the effects of hurricane-generated floods. The project is comprised of two major features: The Chalmette Area Plan and the High Level Plan. The Chalmette Area Plan consists of a levee and floodwall system around the Chalmette area and along the Mississippi River-Gulf Outlet, with connections to the

Mississippi River levees. The High Level Plan provides for heightening and strengthening the existing hurricane protection levee systems in Orleans Parish and the east bank of Jefferson Parish, repairing and rehabilitating the Mandeville Seawall in St. Tammany Parish; building a new mainline hurricane levee on the east bank of the St. Charles Parish just north of U.S. Highway 61 (Airline Highway); raising and strengthening the existing levee which extends along the Jefferson-St. Charles Parish boundary between Lake Pontchartrain and Airline Highway; and deferring construction of the proposed Seabrook lock until its feasibility as a feature of the Mississippi River-Gulf Outlet navigation project can be determined. Areas which will be enclosed by the levee and floodwall construction will be provided protection against tidal surge resulting from the Standard Project Hurricane (SPH). The estimated project cost for work (October 2002) is \$525,742,000 Federal and \$10,000,000 non-Federal.

Local cooperation. Requirements are described in full on page 11-5 of the FY 92 Annual Report.

Operations and results during fiscal year. Preparation of design memorandums and plans and specifications continued by hired labor, Architect-Engineer Contractors, and the local sponsors.

A change from the original Barrier Plan to the current high level plan was approved in February 1985 by the Office, Chief of Engineers.

A draft mitigation report with corresponding EIS was prepared and distributed for public review on Mar. 16, 1988, and subsequently approved. The Louisiana Department of Natural Resources agreed to fund the Local Sponsor's share of mitigation and a segmented shoreline protection dike was constructed in FY 97.

Condition as of Sep. 30. Construction started May 1967 and is 90 percent complete. In FY 03, seven construction contracts were ongoing in the project.

9. LAROSE TO GOLDEN MEADOW, LA (HURRICANE PROTECTION)

Location. In coastal section of Louisiana, along Bayou Lafourche, and includes lands on both banks of the bayou from Larose to 2 miles south of Golden Meadow. (Refer to Geological Survey quadrangles Cutoff, Lake Felicity, Bay Dosgris, Golden Meadow Farms, Bay Tambour, Mink Bayou, Caminada Pass, Leeville, Belle Pass, Pelican Pass, and Calumet Island; Engineer quadrangles New Orleans, Hahnville, Point a

la Hache, Barataria, and Fort Livingston; and Coast and Geodetic Survey Charts Nos. 1115 and 1116.)

Existing project. Provides a loop levee about 40 miles long along both banks of Bayou Lafourche from Larose to South Golden Meadow; enlargement of 3 miles of existing levee at Golden Meadow; floodgates for navigation and hurricane protection in Bayou Lafourche at upper and lower bayou crossings; about 8 miles of low interior levees to regulate intercepted drainage. Estimated cost for new work (October 2002) is \$81,000,000 Federal and \$35,000,000 non-Federal.

Local cooperation. Requirements are described in full on page 11-6 of the FY 92 Annual Report.

Operations and results during fiscal year. One 2nd Lift contract was completed in FY 03.

Condition as of Sep. 30. In FY 03, the Post authorization change report for the Leon Theriot Lock continued.

10. NEW ORLEANS TO VENICE, LA, HURRICANE PROTECTION

Location. Includes land subject to inundation by hurricane tides extending along both banks of the Mississippi River below New Orleans from vicinity of Phoenix to Venice, LA.

Existing project. Provides for improvements along Mississippi River below New Orleans, LA, for prevention of hurricane tidal flood damages by increasing heights of existing back levees and modifying existing drainage facilities where necessary in three separate reaches: Reach A, on the west bank from St. Jude to Tropical Bend, 18 miles, 4,340 acres protected; Reach B, on the west bank from Tropical Bend to Venice, 21 miles, 4,900 acres protected; and Reach C, on the east bank from Phoenix to Bohemia 16 miles, 5,470 acres protected, and raising the river levee on the west bank (MR&T levee) from City Price to Venice, to a grade high enough to prevent overtopping by tidal surges from the east, generally called the West Bank River Plan. Reach B was later divided into two units, Reach B-1 from Tropical Bend to Fort Jackson and Reach B-2 from Fort Jackson to Venice, LA, as a result of a request made by the local agency.

Estimated cost of new work (October 2002) is \$175,000,000 Federal and \$75,000,000 non-Federal.

Local cooperation. Provide all lands, easements, and rights-of-way including borrow areas and spoil disposal areas necessary for the construction of the

project, at costs presently estimated at \$9,032,000; accomplish all necessary alterations and relocations to roads, pipelines, cables, wharves, and other facilities required by the construction of the project at costs presently estimated at \$5,698,000; bear 30 percent of the first cost, a sum presently estimated at \$75,000,000, and cash contribution or equivalent work presently estimated at \$60,270,000 to be paid either in a lump sum prior to initiation of construction or in installments prior to start of pertinent work items.

The local sponsor has requested that an area extending from the upstream limits of Reach A at City Price to St. Jude, Louisiana be incorporated into the project. This work involves upgrading 3.3 miles of existing non-Federal levees to project standards. The local sponsor has elected to pay all of the costs of this reach of levee. While the sponsor will not receive credit for these costs, the increased protected area is eligible for Federally subsidized flood insurance. Savings to the project achieved by a portion of levee no longer being required at the upstream end of Reach A, is creditable to the local sponsor. A Post Authorization Change report was prepared for this reach and was approved by the Lower Mississippi Valley Division on Mar. 6, 1992. Supplemental assurances for the City Price to St. Jude reach were accepted on Feb. 18, 1993.

Assuring Agency: Plaquemines Parish Government. Assurances for all reaches of the project have been furnished.

Requirements are described in full on page 11-7 of the FY 92 Annual Report.

Operations and results during fiscal year. Construction continued on WBRL, Sta. 1319-1797, 2nd Enlargement.

Condition as of Sep. 30. Construction began on the project in September 1968 and the total project is approximately 80 percent complete.

11. SOUTHEAST LOUISIANA URBAN DRAINAGE PROJECT (FLOOD CONTROL)

Location. The authorized project is located in Orleans, Jefferson and St. Tammany Parishes. Features in Orleans Parish (city of New Orleans) are located on the east bank of the Mississippi River. Work in Jefferson Parish is located on the east and west banks of the Mississippi River in the vicinity of New Orleans, LA. St. Tammany Parish features are located in the southern portion of the parish, near Lake Pontchartrain, in and around the communities of Slidell, Mandeville, Madisonville, Abita Springs, and Lacomb, LA.

Project features. The work in Orleans Parish consists of enlargement of a major pumping station and work on two other stations; and improvements to about seven drainage canals and underground drainage lines. Jefferson Parish features include improvements to five pumping stations and almost thirty drainage canals. Work in St. Tammany includes: channel improvements, retention ponds, levees, and structure raising.

Local cooperation. The project requires that the local sponsor(s) provide all lands, easements, rights-of-way, relocations, and disposal areas (LERRDs) needed for project construction, as well as a minimum five percent cash contribution. The total (value) of the locals share must be a minimum of twenty-five percent of the project total, but not exceed fifty percent of the project total. Jefferson Parish and the Sewerage and Water Board of New Orleans executed the Project Cost-sharing Agreements (PCAs) in January 1997.

Operations and results during fiscal year. Local interests in Jefferson and Orleans parishes continued (and in some instances, completed) some of the design and construction of features authorized in the project, for which they will get credit. Architect-Engineer contractors, working for both the Corps and the parishes, are doing most of the design work. Federal construction began in March 1997.

In 2003, eight additional investigations continued, four in Jefferson Parish and four in Orleans Parish, to determine whether there are more Federally justified plans for improving drainage. These studies are required to justify additional improvements to Orleans and Jefferson primary drainage systems.

Condition as of Sep. 30. Funding constraints in FY 03 prevented the award of any new contracts. Construction continued on 19 ongoing contracts. Unfunded liabilities of \$7.0 mil were paid in FY 04.

12. WEST BANK AND VICINITY, NEW ORLEANS, LA, HURRICANE PROTECTION

Location. The project is located in Jefferson, Orleans and Plaquemines parishes on the West Bank of the Mississippi River in the vicinity of New Orleans, Louisiana.

The project area generally extends from the Jefferson-St. Charles Parish line to the community of Oakville in Plaquemines Parish and is bounded by the Mississippi River on the north and east and Lakes Cataouatche and Salvador and the GIWW on the south and west. The original project was from Westwego to Harvey Canal but has been expanded to include the area

East of Harvey Canal and also the Lake Cataouatche area. These two areas were authorized by WRDA 96.

Existing project. The total project consists of about 57 miles of new and enlarged earthen levee, 9 miles of floodwall, a navigable floodgate in the Harvey Canal below Lapalco Boulevard, a discharge channel and 1,000 cfs capacity increase at the Cousins Pump Station. The protection is designed to protect against tidal floodwaters resulting from the Standard Project Hurricane (SPH).

The SPH has a frequency of recurrence of one in 500 years. The elevation of the SPH protection varies from 9 feet NGVD to 12 feet NGVD. The project plan includes mitigation which consists of the construction of a timber pile and tire breakwater on the west bank of Lake Cataouatche adjacent to the Salvador Wildlife Management Area and the acquisition of approximately 1,300 acres of forested wetlands which will be managed to improve habitat quality.

The estimated project cost (October 2002) is \$313,000,000. (\$203,000,000 Federal and \$110,000,000 non-Federal).

Local cooperation. The project requires that the local sponsor provide all lands, easements, rights-of-way, relocations, and disposal areas (LERRDs) needed for project construction. The total (value) of the sponsors share must be a minimum thirty-five percent of the total project costs, in cash or creditable work.

Funds provided by non-Federal interests for interim hurricane protection on the Westwego to Harvey Canal area may be considered beneficial expenditures and may be credited as part of the non-Federal contribution of the project pursuant to the WRDA of 1986.

The Louisiana Department of Transportation and Development and West Jefferson Levee District executed amendment number 1 of the local cooperation agreement in April 1999.

Operations and results during fiscal year. Four construction contracts were awarded during FY 03 in the West Bank and vicinity project.

Conditions as of September 30. Project construction began in February 1991 and the total project is approximately 25 percent complete. The project is currently scheduled for completion in 2014.

13. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Various hurricane protection projects, as well as small flood control projects, were inspected during FY 03. Also, periodic inspection and continuing evaluation of completed civil works structures was conducted in accordance with ER 1110-2-100, at various times during the year on an as needed basis.

Fiscal year costs for the period were \$399,687. Total costs to Sep. 30, 2003 were \$6,994,298.

14. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Emergency flood control activities—repair, flood fighting, and rescue work. (Public Law 99, 84th Cong., and antecedent legislation.)

Disaster preparedness, fiscal year costs for the period were \$359,513. There were no emergency or rehabilitation cost for FCCE in FY 03.

See Table 11-F.

15. PROTECTION OF NAVIGATION

During FY 03, operation and maintenance costs were \$65,822 on Project Condition Surveys.

16. CATASTROPHIC DISASTER PREPAREDNESS PROGRAM

During FY 03, operation and maintenance costs were \$0 on Local Preparedness; \$135,822 on National Preparedness; \$26,808 on National Emergency Facilities; and \$377 Disaster Training and Exercise. Total costs for FY 03 were \$162,630.

17. COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION

Location. The coastal parishes of Louisiana.

Authority. Activities were authorized by the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) (Title III of Public Law 101-646, dated Nov. 29, 1990), which established the Louisiana Coastal Wetlands Conservation and Restoration Task Force. The Task Force consists of the Secretary of the Army (chairman); the Administrator of the Environmental Protection Agency; the Governor of the State of Louisiana; the Secretary of the Interior; the Secretary of Agriculture; and the Secretary of Commerce.

Local cooperation. The conditions of local cooperation are established by this act.

Condition of Sep. 30. The first Priority List (PPL) was approved by the Task Force on Oct. 31, 1991. Fourteen projects were named on the list. Funds in the amount of \$37.3 million (\$28.1 million Federal, \$9.2 million State) were made available for construction of these projects. The Task Force has given final approval for construction for all 14 projects. Of the 14 projects, construction has been completed on 11: Bayou Labranche Wetlands Restoration, Apr. 94; Cameron Prairie Refuge Shoreline Protection, Aug. 94; Sabine Wildlife Refuge Erosion Protection, Mar. 95; Vermilion River Cutoff Bank Protection, Feb. 96; Lake Salvador Shoreline Protection at Jean Lafitte, Mar. 96; Bayou Sauvage #1, May 96; Barataria Bay Waterway Marsh Creation, October 96; Vegetative Planting Demo, December 96; Cameron-Creole Watershed Hydrologic Restoration, Jan. 97; Isles Dernieres (Phase 0), June 99; and GIWW Clovelly Wetland Restorations, Oct. 00. One project is scheduled to begin construction in FY 03, West Bay Sediment Diversion.

The 2nd PPL was approved by the Task Force on Oct. 19, 1992. Fifteen projects were named on the list. Additional funds in the amount of \$39.5 million (\$28.2 million Federal, \$11.3 million State) were made available for construction of these projects. The Task Force has given final approval for construction for 14 of the 15 projects. Of the 15 projects, construction has been completed on 13: Vermilion Bay/Boston Canal, Nov. 95; Mud Lake, Jun. 96; Clear Marais Bank Protection, Mar. 97; Point Au Fer, May 97; Bayou Sauvage #2, May 97; Atchafalaya Sediment Delivery, Mar. 98; West Belle Pass Headland Restoration, Jul. 98; Freshwater Bayou, Aug. 98; Big Island Mining, Oct. 98; and Isles Dernieres (Phase 1), Jun. 99; Hwy 384, Jan. 2000; Fritchie Marsh, Mar. 01; and Caernarvon Diversion Outfall Management, Jun 02. One project, Jonathan Davis, is under construction.

The 3rd PPL was approved by the Task Force on Oct. 1, 1993. Seventeen projects were named. Additional funds in the amount of \$37.3 million (\$29.9 million Federal, \$7.4 million State) were made available for construction of these projects. Engineering and design of several of the projects has been completed, and the Task Force has given final approval for construction for 11 of the 17 projects. Of the 11 projects, construction has been completed on 10 projects; Channel Armor Gap Crevasse, Nov. 97; Lake Salvador Shore Protection, Jun. 98; Cameron Creole Maintenance, Jul. 98; Cote Blanche, Dec. 98; MR-GO Back Dike, Jan. 99; Lake Chapeau, May 99; Brady Canal, May 00; Whiskey Island, Jun. 00; and East

Timbalier Island Restoration #1, May 01. One project is under construction: Sabine Refuge Structure-Hog Island. Additionally, one of the deauthorized projects, South West Shore White Lake Demo, was completed in Jul. 96.

The 4th PPL was approved by the Task Force on Dec. 16, 1994. Ten projects were named on the list. Additional funds in the amount of \$33.5 million (30.0 million Federal, \$3.5 million State) were made available for construction of these projects. Engineering and design on several of the projects has been completed, and the Task Force has given final approval for construction for four of the ten projects. Construction has been completed on three of the 4th PPL projects, Perry Ridge Bank Protection, Feb. 99; Plowed Terraces Demo, Aug. 00; and Barataria Bay Waterway Bank Protection West, Nov. 00. One project is under construction: East Timbalier Island Restoration #2.

The 5th PPL was approved by the Task Force on Feb. 28, 1996. Nine projects were named on the list. Additional funds in the amount of \$40.6 million (\$33.4 million Federal, \$7.2 million State) were made available for construction of these projects. Engineering and design on several of the projects has been completed, and the Task Force has given final approval for construction for six of the nine projects. Six projects have been completed, Racoon Island Breakwaters Demo, Jul. 97, Freshwater Bayou Bank Stabilization, Jun. 98, Little Vermilion Bay Sediment Trapping, Aug. 99; Bayou Chevee, Dec. 01; Naomi Outfall Management, Jul. 02; and Sweet Lake/Willow Lake, Oct. 02.

The 6th PPL was approved by the Task Force on April 24, 1997. Thirteen projects were named on the list. Additional funds in the amount of \$45 million (39.1 million Federal, \$5.9 million State) were made available for construction of these projects and to fund 5th PPL phased projects. Engineering and design on several of the projects has been completed and five projects have completed construction: Barataria Bay Water Bank Protection (East), May 01; Marsh Island Hydrologic Restoration, Dec. 01; Flexible Dustpan Demo, Jun. 02; and Oaks/Avery Canals Hydrologic Restoration, Oct. 02. Three projects are under construction: Nutria Harvest for Wetland Restoration Demo, Sediment Trapping at the Jaws, and Delta-Wide Crevasses.

The 7th PPL was approved by the Task Force on Jan. 16, 1998. Four projects were approved on the list. Additional Federal funds in the amount of \$45.8 million (\$42.5 million Federal, \$3.3 million State) were made available for construction of these projects. Engineering

and design on several of the projects has been completed. Construction has been completed on two projects, Thin Mat Float and Marsh Enhancement Demo, May 00; and Grande Terre, Jul. 01. The two remaining project, Barataria Basin Landbridge, Phase 1 and Phase 2, and Pecan Island Terracing are currently under construction.

The 8th PPL was approved on Jan. 20, 1999. Six projects were approved on the list. Additional funds in the amount of \$44.2 million (\$41.9 million federal, \$2.3-million state) were made available for construction of these projects. Engineering and Design on several projects has begun. One project, Sabine Refuge Marsh Creation, is under construction

The 9th PPL was approved on Jan. 11, 2000. Nineteen projects were approved on the list. However, starting with PPL 9, the Task Force implemented cash flow management policy in which only the Phase 1 design of the projects was approved by the Task Force. After Phase 1 design is completed, the Phase 2 construction of the projects will need separate approval by the Task Force. Additional funds in the amount of \$52.9 million (\$47.9 million Federal; \$5.0 million State) were made available for construction of the projects. Four projects have been approved to proceed to Phase 2 construction. One project, Chandeleur Islands Restoration, was completed Jul. 01. Another project, Perry Ridge to Texas, is under construction.

The 10th PPL was approved on Jan. 10, 2001. Twelve projects were approved for Phase 1 design on the list. Additional funds in the amount of \$52.1 million (\$47.7 million Federal; \$4.4 million State) were made available for construction of the projects. Four projects have received Phase II approval: Delta management at Fort St. Philip, Grand-White Lake Landbridge Restoration, North Lake Mechant, and Terrebonne Bay Shore Protection Demo.

The 11th PPL was approved Jan. 16, 2002. Fourteen projects were approved for Phase I design on the list. Additional funds in the amount of \$74.0 million (\$57.3 million Federal; \$16.7 million State) were made available for construction of the projects. One project has received Phase II approval and is under construction: Coastwide Nutria Control Program.

The 12th PPL was approved by the Task Force on January 16, 2003. Phase I funds in the amount of \$8.4 million were approved for five projects. Additional funds in the amount of \$56,938 Federal and \$4 million were made available for construction of the projects. The Task Force is developing prioritization criteria to rank projects under PPLs 1-12 that have not yet been

authorized for construction based upon the benefits to the environment.

In response to Section 303(b) of the CWPPRA, the Louisiana Coastal Wetlands Restoration Plan report was published in November 1993. Following public review of the final report, a Record of Decision was prepared, signed by the Task Force chairman and submitted to HQUSACE for transmittal to the ASA(CW). The report proposed \$1.3 billion worth of projects that could prevent 65 percent of the coastal wetland losses over the next 20 years.

The State of Louisiana expressed its intention (by letter of Jan. 5, 1993) to develop a Conservation Plan in accordance with provisions of the CWPPRA. Once approved (by the Administrator of the EPA, the Director of the U.S. Fish and Wildlife Service, and the Secretary of the Army), the State's share in project construction will be reduced from 25 percent to 15 percent. The State submitted the plan to the approving agencies in May 1997. Approval was received on Nov. 21, 1997.

Section 532 of the Water Resources Development Act (WRDA) of 1996 amends the CWPPRA to provide for a further reduction in the State's share of CWPPRA projects. Upon approval of the Conservation Plan, the State's share of projects in 1996 and 1997 will be 10 percent. In a Sep. 3, 1996, speech in the House of Representatives, the Honorable Bud Shuster of Pennsylvania said that the intent of the legislation was to reduce the State's share of projects approved on the 5th and 6th Priority Project Lists. The amendment further provides that the Secretary of the Army must determine that a reduction in the non-Federal share is warranted.

In June 1997, the Task Force initiated a coast-wide grassroots planning effort termed the Coast 2050 initiative to develop a technically sound strategic plan to sustain coastal resources and provide an integrated multiple use approach to ecosystem management. The Coast 2050 plan differs from the 1993 restoration plan in that regional strategies, rather than basin strategies, will be developed and prioritized. Coast 2050 was completed in December 1998 and supports the Louisiana Coastal Area authority, Louisiana Ecosystem Restoration reconnaissance report, which was approved by HQUSACE in May 1999. Nine basin feasibility studies are planned for execution under the 1967 Louisiana Coastal Area authority. During FY 2003, a Comprehensive Coast-wide Ecosystem Restoration Study continued. This study investigated the Feasibility of implementing large-scale restoration plans coast wide, currently estimated to cost \$15 billion. The study

will seek programmatic authority from Congress for implementation of these plans through WRDA 2004. This study, along with other supporting interim studies and reports is estimated to cost \$30 million and is to be cost shared on a 50-50 basis with the State of Louisiana.

18. GENERAL REGULATORY PROGRAM

Permit Evaluation	\$4,306,841
Enforcement	785,600
Environmental Inspection Statement	24,841
Appeals	<u>21,811</u>
Total General Regulatory Program	\$5,139,093

TABLE 11-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 99	FY 00	FY 01	FY 02	FY 03	Total Funds to Sep. 30, 2003
1.	Inner Harbor Navigation Canal Lock (Inland Waterway Trust Fund)	New Work						
		Approp.	--	3,534,000	14,296,000	6,300,000	18,880,000	47,246,000
		Cost		3,107,909	19,179,232	8,112,600	8,853,546	36,145,378
	(Regular Funds)	Maint.						
		Approp.	--	--	3,105,000	6,300,000	8,880,000	47,246,000
		Cost	--	--	3,105,000	9,207,200	9,657,280	48,914,480
2.	Mississippi River – Gulf Outlet, LA	New Work						
		Approp.	200,000	300,000	369,000	568,000	538,000	109,275,200
		Cost	446,971	372,297	289,445	773,800	581,005	108,429,725
	(Regular Funds)	Maint.						
		Approp.	40,417,000	15,970,000	20,300,731	11,593,000	11,535,000	335,787,201
		Cost	41,742,157	15,993,423	19,270,229	12,368,636	11,794,324	207,908,779
3.	Mississippi River Ship Channel – Gulf to Baton Rouge	New Work						
		Approp.	630,000	1,286,000	1,653,000	156,000	16,600	27,591,600
		Cost	519,422	1,577,854	1,516,510	351,900	26,736	27,592,250
	(Contrib. Funds)	New Work						
		Contrib.	--	--	--			4,750,000
		Cost	--	--	--			4,750,000
4.	Port Fourchon, LA	New Work						
		Approp.	24,000	373,000	2,189,000		287,000	3,222,000
		Cost	126,337	30,665	2,421,345	110,000	286,885	3,133,895
	(Contrib. Funds)	New Work						
		Approp.	--	1,341,000	264,000			1,605,000
		Cost	--	--	1,534,243			1,534,243
5.	Amite River & Tribes., East Baton Rouge Parish	New Work						
		Approp.	--	--	--	615,000	757,000	4,090,000
		Cost	--	--	--	557,100	809,563	1,366,663
6.	Comite River, LA (Diversion)	New Work						
		Approp.	930,000	930,000	1,250,000	3,181,000	4,949,000	17,511,000
		Cost	780,000	898,640	1,297,629	2,851,600	5,333,734	14,527,003
7.	Grand Isle and Vicinity, LA	New Work						
		Approp.	56,059	60,000	419,000	728,000	500,000	20,764,500
		Cost	43,249	23,809	139,989	617,500	501,071	20,337,056
		Maint.						
		Approp.	--	--	--	--		10,000
		Cost	--	--	--	--		8,616

**TABLE 11-A COST AND FINANCIAL STATEMENT
(Continued)**

See Section in Text	Project	Funding	FY 99	FY 00	FY 01	FY 02	FY 03	Total Funds to Sep. 30, 2003
8.	Lake Pontchartrain and Vicinity, LA (Hurricane Protection) (Regular Funds)	New Work Approp. Cost	16,000,000 24,443,102	26,204,000 27,402,978	14,295,000 14,458,657	9,134,219 10,023,800	10,163,400 10,412,869	385,653,000
	(Contrib. Funds)	New Work Contrib. Cost	1,000,000 --	4,600,000 9,274,120	1,000,000 488,288	600,000 1,234,400	1,600,000 1,407,104	55,433,000
9.	Larose to Golden Meadow, LA (Hurricane Protection)	New Work Approp. Cost	1,088,000 1,071,952	2,015,000 2,030,154	2,184,000 2,298,922	1,533,000 1,627,500	335,000 333,794	77,886,000 77,883,766
	(Contrib. Funds)	New Work Contrib. Cost	-- --	310,000 --	200,000 498,371	508,000 408,800	-- 53,365	4,948,000
10.	New Orleans to Venice, LA (Hurricane Protection)	New Work Approp. Cost	697,000 701,055	2,150,000 2,077,000	1,843,000 1,781,255	1,245,000 1,251,800	2,635,000 2,768,566	150,951,000 150,947,910
	(Contrib. Funds)	New Work Contrib. Cost	600,000 1,754,507	100,000 100,000	2,500,000 --	-- --	2,110,000 2,111,162	23,933,000 23,712,430
11.	Southeast Louisiana, LA (Urban Drainage)	New Work Approp. Cost	75,000,000 53,229,795	47,263,000 69,197,930	81,960,000 81,694,393	59,711,000 61,210,700	38,907,000 39,326,596	355,821,000 355,807,700
	(Contrib. Funds)	New Work Contrib. Cost	-- --	720,000 5,661,572	12,773,514 8,830,336	11,808,399 17,254,100	9,768,775 9,858,801	22,611,000
12.	West Bank and Vicinity, New Orleans, LA (Hurricane Protection)	New Work Approp. Cost	5,809,000 5,806,982	9,805,000 6,324,919	11,724,000 13,986,259	47,773,300	9,068,700 9,551,032	82,191,000
17.	Coastal Wetlands Planning, Protection, and Restoration	New Work Approp. Cost	46,864,079 46,204,412	52,907,300 18,150,316	52,659,220 19,153,013	32,616,000 23,407,000	56,938,097 34,715,136	508,185,679
	(Contrib. Funds)	New Work Contrib. Cost	2,593,248 935,300	3,864,325 1,734,222	1,585,775 1,741,830	4,747,000 4,686,700	880,883 255,664	57,828,382 21,901,306

11-14

TABLE 11-B
(Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	MISSISSIPPI RIVER SHIP CHANNEL, GULF TO BATON ROUGE, LA (See Sec. 3 of Text)	
Approp. Act of 1985, dated Jul. 2, 1986 (PL 99-88)	Will provide more efficient deep-draft navigation access to the New Orleans and Baton Rouge reaches of the Mississippi River via Southwest Pass by enlarging the existing channel to a project depth of 55 feet and enlarging the adjacent channel along the left descending bank in New Orleans Harbor to a 40-foot depth, a turning basin at Baton Rouge, and training works in the passes to reduce maintenance.	H. Doc. 2577, 99th Cong., 1st sess.
Nov. 17, 1986 (PL 99-662)	Formalizes the cost sharing provisions of the project, permits the State of Louisiana to enact user fees to defray their portion of the project costs, and implements harbor maintenance fees to help pay for the Federal cost of the project. It also provides an option to the local sponsor to defer their initial payment for one year following initiation of construction. In terms of channel depths up to 45 feet, the cost sharing requirements are 75 percent Federal and 25 percent non-Federal for construction and 100 percent Federal for maintenance. For channels deeper than 45 feet, the cost sharing requirements are 50 percent Federal and 50 percent non-Federal for both construction and maintenance.	Water Resources Development Act of 1986, 99th Cong., 2d sess.
	PORT FOURCHON, LA	
Water Resources Development Act, 1996	Provides a Federal navigation channel with a project depth of 24 feet MLLW in Bayou Lafourche, Belle Pass, and the Gulf of Mexico to improve navigation access to Port Fourchon at a total cost of \$4,440,000, with an estimated Federal cost of \$2,300,000 and an estimated non-Federal cost of \$2,140,000.	Public Law 104-303, 104th Congress (See Section 101) Oct. 12, 1996
	WATERWAY FROM INTRACOASTAL WATERWAY TO BAYOU DULAC, LA (Bayous Grand Caillou and LeCarpe, LA)	
Aug. 30, 1985	Channel 5 by 40 feet from Intracoastal Waterway at Houma through Bayou LeCarpe, Bayou Pelton, and Bayou Grand Caillou to Bayou Dulac, about 16.3 miles.	H. Doc. 206, 72d Cong., 1st sess.
Oct. 23, 1962	Channel 10 by 45 feet in Bayou LeCarpe from Gulf Intracoastal Waterway to Houma navigation canal.	
	BAYOU RIGOLETTE, LA	
Water Resources Development Act, 1986	A project to construct six additional floodgates at Bayou Rigolette, LA, adjacent to the existing drainage structure, at a total cost of \$2,300,000.	Public Law 99-662, Nov. 17, 1986
	AMITE RIVER AND TRIBUTARIES, LOUISIANA, EAST BATON ROUGE PARISH WATERSHED	
Water Resources Development Act, 1999 August 17, 1999	Amite River and Tributaries, Louisiana, East Baton Rouge Parish Watershed. The project for flood damage reduction and recreation, Amite River and tributaries, Louisiana, East Baton Rouge Parish Watershed: Report of the Chief of Engineers Dated December 23, 1996, a total cost of \$112,900,000, with an estimated Federal cost of \$73,400,000 and an estimated non-Federal of \$39,500,000.	Public Law 106-53 August 17, 1999

TABLE 11-B
(Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Water Resources Development Act, 1992	COMITE RIVER, LA (Diversion) (See Sec. 6 of Text) Construct an eight-mile diversion channel from the Comite River to an outfall into Lilly Bayou, and then a four-mile diversion along Lilly and Cooper Bayous to the Profit Island Chute of the Mississippi River. Also included a diversion structure in the new channel near the diversion point, and an outfall structure near and at the outfall into Lilly Bayou, and three control structures at the intersections of Whites, Cypress and Baton Rouge Bayous.	Public Law 102-580 Section 101 (11) Oct. 31, 1992
Water Resources Development Act, 1996		Public Law 104-305 Section 301(b)(5) Oct. 12, 1996
Energy and Water Development Appropriations Act, FY 1999	Provided funding authority in the amount of \$930,000 to initiate construction.	Public Law 105-245 Oct. 7, 1998
Adopted by Committee Resolutions Sep. 23, 1976, and Oct. 1, 1976 ²	GRAND ISLE AND VICINITY, LA (See Sec. 7 of Text) To provide hurricane protection by placement of a berm and vegetated dune extending the length of Grand Isle's gulf shore and a jetty to stabilize the western end of the island at Caminada Pass.	H. Doc. 639, 94th Cong., 2d sess.
Oct. 27, 1965	LAKE PONTCHARTRAIN AND VICINITY, LA (HURRICANE PROTECTION) (See Sec. 8 of Text) Control of hurricane tides by construction of two independent units, the Lake Pontchartrain Barrier plan and the Chalmette Area plan.	H. Doc. 231, 89th Cong., 1st sess.
Section 107, Rivers and Harbors Act of 1960, as amended	NORTH PASS - PASS MANCHAC, LA The Corps of Engineers may construct small river and harbor improvement projects not specifically authorized by Congress when they will result in substantial benefits to navigation.	Public Law 86-645 Jul. 14, 1960
Water Resources Development Act, 1986 Nov. 17, 1988	LAKE PONTCHARTRAIN, NORTH SHORE, LA The project for navigation, Lake Pontchartrain North Shore, LA: Report of the Chief of Engineers, dated February 14, 1979, at a total cost of \$1,310,000, with an estimated first Federal cost of \$655,000 and an estimated first non-Federal cost of \$655,000.	Public Law 99-662, Nov. 17, 1986, 99th Cong., 2d sess.
Water Resources Development Act, 1992	LAKE PONTCHARTRAIN STORMWATER DISCHARGE, LA (See Section 9 of Text) Provides for design and construction of project to to address water quality problems associated with stormwater discharges.	Public Law 102-580

TABLE 11-B
(Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Oct. 27, 1965	<p>LAROSE TO GOLDEN MEADOW, LA (HURRICANE PROTECTION) (See Sec. 10 of Text)</p> <p>A loop levee about 40 miles long along both banks of Bayou Lafourche from Golden Meadow to Larose; enlargement of 3 miles of existing levee at Golden Meadow; floodgates for navigation and hurricane protection in Bayou Lafourche at upper and lower bayou crossings; about 8 miles of low interior levees to regulate intercepted drainage; and seven multibarreled culverts controlled by flapgates.</p>	H. Doc. 184, 89th Cong., 1st sess. ¹
Oct. 27, 1965	<p>MORGAN CITY AND VICINITY, LA, HURRICANE PROTECTION</p> <p>Construction of new levees along Lake Palourde and Bayou Ramos, levee to tie-in with Bayou Boeuf lock levee and three gravity drainage structures in Morgan City unit and enlargement of bank levee, construction of new levee, and construction of one floodgate and five gravity drainage structures in Franklin and vicinity unit. The Franklin Area reparable element is currently under review for deauthorization in accordance with WRDA 1990.</p>	H. Doc. 167, 89th Cong., 1st sess.
Section 14, Flood Control Act of 1946	<p>MERMENTAU RIVER - GRAND CHENIER, LA (See Sec. 11 of Text)</p> <p>Construction of emergency bank-protection works to prevent flood damage to highways, bridge approaches and public works.</p>	Public Law 526, 79th Cong., 2d sess. Jul. 24, 1946
Oct. 23, 1962	<p>NEW ORLEANS TO VENICE, LA, HURRICANE PROTECTION (See Sec. 12 of Text)</p> <p>Improvements along Mississippi River below New Orleans, LA, for prevention of hurricane tidal flood damages by increasing heights of existing back levees and modifying existing drainage facilities where necessary in five separate reaches.</p>	H. Doc. 550, 87th Cong., 2d sess.
Energy and Water Development Appropriations Act, FY 1996	<p>SOUTHEAST LOUISIANA, LA (See Section 13 of text)</p> <p>Provides for drainage canal and pump station improvements in Orleans and Jefferson Parishes, and drainage improvements, flood protection and structure raising in St. Tammany Parish.</p>	Public Law 104-46 (Sec 108)
Water Resources Development Act, 1996		Public Law 104-303 (Sec 533)
Water Resources Development Act, 1999	<p>WEST BANK AND VICINITY, NEW ORLEANS, LA HURRICANE PROTECTION</p> <p>Combination of Projects - Section 328(b) of WRDA 99 states:</p> <p>The Secretary shall carry out work authorized as part of the Westwego to Harvey Canal project, the East of Harvey Canal project, and the Lake Cataouatche modifications as a single project, to be known as the "West Bank and Vicinity, New Orleans, Louisiana, Hurricane Protection", with a combined total cost of \$280,300,000.</p>	Public Law 106-53, Aug. 17, 1999

TABLE 11-B
(Continued)
AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Water Resources Development Act, 1986	Westwego to Harvey Canal - Section 401(b) of WRDA 86 states: Structural and nonstructural measures to prevent flood damage to those areas identified in the Feb. 1984 draft Environmental Impact Statement for the West Bank Hurricane Protection Levee, Jefferson Parish, LA at a total cost of \$61,500,000, with an estimated first Federal cost of \$40,000,000 and as estimated first non-Federal Cost of \$21,500,000. Funds provided by non-Federal interest for interim hurricane protection may be considered beneficial expenditures and may be credited as part of the non-Federal contribution of the project pursuant to Section 104 of this Act.	Public Law 99-662, Nov 17, 1986
Water Resources Development Act, 1996	East of Harvey Canal - Section 101(a)(17) of WRDA96 states: The project for hurricane damage reduction, West Bank of the Mississippi River in the vicinity of New Orleans (East of Harvey Canal), Louisiana: Report of the Chief of Engineers, dated May 1, 1995, at a total cost of \$126,000,000, with an estimated Federal cost of 82,200,000 and an estimated non-Federal cost of \$43,800,000.	Public Law 104-303
Water Resources Development Act, 1996	Lake Cataouatche - Section 101(b)(11) of WRDA 96 states: The project for hurricane damage prevention and flood control, West Bank Hurricane Protection (Lake Cataouatche Area), Jefferson Parish, Louisiana, at a total cost of \$14,375,000 with an estimated Federal cost of \$9,344,000 and an estimated non-Federal cost of \$5,031,000.	Public Law 104-303
Coastal Wetlands Planning, Protection and Restoration Act	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT (See Section 19 of Text) Directed the Secretary of the Army to convene the Louisiana Coastal Wetlands Conservation and Restoration Task Force to initiate a process to identify and prepare a list of coastal wetlands restoration projects in Louisiana to provide for the the long-term conservation of such wetlands and dependent fish and wildlife populations in order of priority in creating, restoring, protecting, and enhancing coastal wetlands, taking into account the quality of such coastal wetlands, with due allowance for small-scale projects necessary to demonstrate the use of new techniques or materials for coastal wetlands restoration.	Public Law 101-64 Nov. 24, 1990 Section 301-306

1. Contains latest published map.
2. Permanent Appropriation Repeal Act.

TABLE 11-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report For	Cost To September 30, 2003		Mo. and Yr. Completed Deauthorized or Reclassified
			Construction	Operation and Maintenance	
Alteration of Berwick Bay Bridge ¹	--	1967	\$ --	\$ --	--
Amite River and Bayou Manchac, LA	Complete	1978	28,234	69,087	1928
Aquatic Plant Control Program, LA	Complete	1984	17,098,851	--	
Atchafalaya River Bayous Chene Boeuf, and Black, LA	Complete	1984	30,356,691	183,155,950	
Atchafalaya River, Morgan City to Gulf of Mexico, LA	Complete	1981	501,963	37,167,654	1914
Barataria Bay Waterway, LA	Complete	1984	1,572,685	32,674,088	Nov. 1963
Bayou Bonfouca, LA	Complete	1974	30,997	320,758	1931
Bayou Dorcheat, Loggy Bayou and Lake Bisteneau, LA ^{2,3,4,5}	--	1887	5,000	--	--
Bayou Dupre, LA	Complete	1968	38,915	104,187	1939
Bayou Lacombe, LA	Complete	1967	4,716	133,691	1938
Bayou Lafourche and Lafourche Jump Waterway, LA		1984	1,624,424	2,243,444	
Bayou La Lautre, St. Malo, and Yscalskey, LA	Complete	1970	96,916	223,616	May 1956
Bayou Plaquemine Brule, LA	Complete	1950	33,410	36,780	1915
Bayou Queue de Tortue, LA	Complete	1970	33,355	28,315	Mar. 1923
Bayou Segnette Waterway, LA	--	1958	238,828	927,143	--
Bayou Teche, LA		1984	754,330	18,887,058	
Bayou Teche & Vermilion River, LA	Complete	1983	2,891,822	2,810,462	Mar. 1957
Bayou Terrebonne, LA ^{3,7}	Complete	1961	120,089	251,691	1916
Bayou Vermilion, LA ³	Complete	1947	34,900	200,169	1896
Big Pigeon and Little Pigeon Bayous, LA	Complete	1936	--	37,169	²
Calcasieu River and Pass, LA	Complete	1984	27,830,835	233,597,952	Oct. 1968
Calcasieu River at Coon Island, LA ⁸	Complete	1976	1,015,814 ¹⁰	--	Apr. 1974
Calcasieu River at Devil's Elbow, LA	Complete	1981	5,856,200	--	Sep. 1978
Cascasieu River Salt Water Barrier, LA ⁹	Complete	1973	4,197,262	--	Jan. 1968
Cane River, LA ^{2,5}	--	1910	2,500	2,000	--
Chefuncte River and Bogue Falia, LA	Complete	1967	58,342	584,440	1959
Cypress Bayou and Waterway between Jefferson, TX, and Shreveport, LA ¹⁰	Complete	1971	202,817	452,611	Dec. 1914
Freshwater Bayou, LA	Complete	1984	7,116,224	45,337,734	Aug. 1968
Grand Bayou Pass, LA	Complete	1950	7,676	14,480 ¹⁰	1939
Gulf Intracoastal Waterway between Apalachee Bay, FL, & Mexican Border	Complete	1985	63,284,470	619,460,284	--
Houma Navigation Canal, LA		1984	--	44,805,398	
Inland Waterway from Franklin to Mermentau River, LA ^{1,11}	Complete	1960	249,052	552,780	²
Intracoastal Waterway from the Mississippi River to Bayou Teche, LA ¹²	--	1956	--	11,699	--
Lake Charles Deep Water Channel, LA ¹³	--	1950	--	241,896	--
Leland Bowman Lock, LA	Complete	1987	32,200,010	--	Mar. 1985
Little Caillou Bayou, LA	Complete	1973	77,761	751,485	1929
Mermentau River, Bayou Nezpique, and Bay Des Cannes, LA	Complete	1977	5,197,975 ¹⁴	114,519	--
Mermentau River, LA	Complete	1985	4,672,579	48,365,276	Jul. 1952
Mississippi River Baton Rouge to Gulf of Mexico, LA	--	1991	84,568,128 ¹⁶	1,185,105,195 ^{17,22}	--

**TABLE 11-C OTHER AUTHORIZED NAVIGATION PROJECTS
(Continued)**

Project	Status	For Last Full Report See Annual Report For	Cost To September 30, 2003		Mo. and Yr. Completed Deauthorized or Reclassified
			Construction	Operation and Maintenance	
Mississippi River-Gulf Outlet, Michoud Canal, LA	-- ²¹	1996	88,535,000 ²⁰	2,323,246,872	Jan. 1968 ²¹
Mississippi River Outlets, Venice, LA	Complete	1976	2,499,555	1,271,252	Nov. 1974
Navigation work under special authorization (Calcasieu Pass channel in Old River Bend at Cameron, LA) ¹⁵	Complete	1986	10,014,012	44,096,875	Complete
North Pass-Pass Manchac, LA	--	1957	--	139,755	--
Pass Manchac, LA	Complete	1996	533,492	--	May 1995
Petite Anse, Tigre, and Carlin Bayous, LA	Complete	1950	79,845	124,681	1912
Removal of Aquatic Growth, LA	Complete	1981	--	1,453,172	Nov. 1980
Sulphur River, AR and TX ^{2,5}	--	1984	--	49,519,614	--
Tangipahoa River, LA	--	1919	45,989	--	--
Tickfaw, Natalbany, Ponchatoula, and Blood Rivers, LA ³	--	1985	--	2,897,031	--
Waterway from White Lake to Pecan Island, LA ¹¹	Complete	1973	8,115	94,164	1921
Waterway from Empire, LA, to Gulf of Mexico	--	1948	10,904	742	--
Waterway from Intracoastal Waterway to Bayou Dulac, LA	Complete	1981	1,068,142	1,672,851	Jun. 1950
	Complete	1990	641,608	2,018,977	Aug. 1964

1. Transferred to Department of Transportation. Authorized under Truman-Hobbs Act.
2. Completed. Date will be furnished when available.
3. Includes previous project costs.
4. No commerce reported.
5. Abandonment recommended in H. Doc. 467, 69th Cong., 1st sess.
6. Completed except that portion above mile 10.3 providing for widening from 40 feet to 60 feet, which is inactive.
7. By Public Law 88-404, that portion of Bayou Terrebonne between point where Barrow Street crosses said stream and a line determined by prolonging and extending eastern right-of-way line of New Orleans Boulevard southerly to south bank of said stream was declared nonnavigable.
8. Includes \$66,000 contributed funds.
9. Operation and maintenance of the structure reported under project "Calcasieu River and Pass, LA."
10. Excludes \$50,000 contributed funds.
11. Not completed; incorporated in navigation project "Mermentau River, LA."
12. Not completed; superseded for most of it length by present 12- by 125-foot Gulf Intracoastal Waterway, which coincides with or parallels it.
13. Maintenance project; no future work schedules.
14. Includes \$57,555 (\$29,974 of which was from Public Works funds) for new work on previous project. Includes \$114,519 for maintenance of previous project.
15. Work is under continuing authority.
16. Includes \$1,729,989 for previous project.
17. Does not include allotment of \$40,000 (9613123).
18. Does not include expenditures of \$63,370 (9613123).
19. Includes \$169,055 for previous projects and \$3,379,676 from permanent indefinite appropriation.
20. Includes \$8,811,000 Non-Federal Costs.
21. Channel completed except for IHNC Lock replacement and foreshore protection.
22. Does not include expenditures of \$7,614,000 for Dredge Wheeler Ready Reserve for 2003.

TABLE 11-D **OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Project	For Last Full Report See Annual Report For:	Cost to Sep. 2003		Completed
		Operation and Construction	Mo. and Yr. Maintenance	
Amite River and Tributaries, LA	1964	3,034,255 ¹	--	Feb. 1964
Bayou Choupique, LA ²	1954	129,930	--	Mar. 1954
Bayou Rapides, LA ²	1952	95,179	--	Dec. 1951
Harvey Canal, Bayou Barataria Levee, LA	1979	1,018,005	--	--
Morgan City and Vicinity, LA	1992	1,975,628	--	--

1. In addition, the following was expended from contributed funds:
Amite River and tributaries \$ 430
Harvey Canal, Bayou Barataria Levee, LA 425,209
2. Authorized by Chief of Engineers (Sec. 205, 1948 Flood Control Act, as amended)

TABLE 11-E **DEAUTHORIZED PROJECTS**

Project	For Last Full Report See Annual Report for	Date and Authority	Federal Funds Expended	Contributed Funds Expended
Baton Rouge Harbor Segment Between Mi 2.5 and 5.0	1946	Nov. 2, 1979 Section 12, Public Law 93-251 (WRDA 74)	--	--
Bayou Grosse Tete, LA	1969	May 6, 1981 DAEN-CWP-A Letter Subj: Completed Action on 5th Deauthorization Rpt, dated Jun. 17, 1981	--	--
Lake Borgne and Chef Menteur Bulkheads and Jetties	1942	Nov 1979	--	--
Vinton Waterway, LA	1950	Nov. 2, 1979 Section 12, Public Law 93-251 (WRDA of 1974)		

TABLE 11-G

ENVIRONMENTAL WORK UNDER SPECIAL AUTHORIZATION

Wetland/Other Aquatic Habitat Creation (Section 204, Public Law 102-560)

Project	FISCAL YEAR COST		
	Federal	Non-Federal	Total
Atchafalaya River	16,700		16,700
Houma Navigation Canal, Barrier Island Restoration	12,400	24,800	37,200
CDSMAD, Sediment Trap for Marsh	7,500		7,500
MR-GO Mile 14-12	435,000	145,000	580,000
MR-GO South Jetty Wong Dike	300		300
Section 204 Coordination	9,600		9,600
Total Section 204	\$481,500	\$169,800	\$651,300

Aquatic Ecosystem Restoration (Section 206, Public Law 102-560)

Project	FISCAL YEAR COST		
	Federal	Non-Federal	Total
Buras Marine	60,500		60,500
City of Mandeville	76,100		76,100
False River	67,200		67,200
Lake Martin Ecosystem Restoration	58,900		58,400
LA State Pen, Lake Killarney	415,000		415,000
Lake Fausse Point	138,000		138,000
Lake Verret, Assumption Parish	15,500		15,500
Miller Lake Ecosystem Restoration	8,900		8,900
Vermilion River Ecosystem Restoration	9,100		9,100
Total Section 206	\$712,100		\$712,100

Project modifications to improve environment (Section 1135, Public Law 99-662)

Project	Fiscal Year Cost		
	Federal	Non-Federal	Total
Calcasieu River Hydrologic Restoration	13,900		13,900
Gulf Intercoastal Waterway, Plaquemines Lock, LA	31,700		31,700
New River Restoration	47,300		47,300
Houma Navigation Canal	23,300		23,300
GIWW Miles 220 to 222.5 W of Harvey Lock, LA	29,700		29,700
MRGO	5,900		5,900
Section 1135 Coordination	9,600		9,600
Total Section 1135	\$161,400		161,400

Navigation Section 107

Project	Fiscal Year Cost		
	Federal	Non-Federal	Total
Short Cut Canal	45,500	0	45,500
Cameron Oil Port	5,500	0	5,500
Port Fourchon Extension	24,900	0	24,900
Section 107 Coordination	9,200	0	9,200
Bayou DuLarge	4,100	16,600	20,700
Total	\$89,200	\$16,600	\$105,800

TABLE 11H

**ACTIVE GENERAL INVESTIGATIONS
(96×3121)**

Item and CWIS Number	Fiscal Year Cost		
	Federal	Non-Federal	Total
SURVEYS (Category 100)			
<u>Navigation (110)</u>			
Intracoastal Waterway Locks, LA	170,747		170,747
Atchafalaya River and Bayous			
Chene, Boeuf, and Black, LA	423,163	375,330	798,993
Calcasieu River Ship Channel Enlargement, Port of Iberia, LA	4,874		4,874
Calcasieu Lock, LA	485,104		485,104
Subtotal	\$1,083,888	\$375,330	\$1,459,218
<u>Flood Damage Prevention Studies (120)</u>			
Calcasieu River Basin, LA	455		455
Lafayette Parish, LA		283,016	283,016
West Shore, Lake Pontchartrain	16,553	455,727	472,280
Hurricane Protection, LA	89,899		89,899
Jefferson Parish, LA	262,340	58,868	21,208
Orleans Parish, LA		348,226	348,226
St. John the Baptist Parish, LA	31,236		31,236
St. Charles Parish Urban Flood Control, LA	5,372		5,372
Plaquemines Parish Urban Flood Control, LA	146,664	236,276	382,940
St. Bernard Parish Urban Flood Control, LA	62,170	253,722	315,892
Subtotal	\$2,073,897	\$1,635,835	\$3,709,732
<u>Ecosystem Restoration Studies</u>			
GIWW Bank Stabilization & Ecosystem Restoration	46,506		46,506
LCA Ecosystem Restoration	5,697,204	1,106,784	6,803,988
Subtotal	\$5,743,710	\$1,106,784	\$6,850,494
<u>Special Studies (140)</u>			
West Baton Rouge Parish, LA	231,944		231,944
Subtotal	\$231,944		\$231,944
<u>Miscellaneous Activities (170)</u>			
Interagency Water Resources Development	20,536		20,536
Special Investigations	26,532		26,532
Gulf of Mexico Program	160,193		160,193
National Estuary Program	6,098	6,098	
North American Waterfowl Management Plan	3,863		3,863
Subtotal	\$217,222		\$217,222

TABLE 11H
(Continued)

ACTIVE GENERAL INVESTIGATIONS
(96×3121)

Item and CWIS Number	Fiscal Year Cost		
	Federal	Non-Federal	Total
<u>Planning Assistance to States (180)</u>			
Chitimacha Master Planning	25,000	30,800	55,800
Chitimacha River Corridor	100	3,400	3,500
Tunica Reservation Master	98,700	36,900	135,600
Assumption Parish Master	0	30,000	30,000
Baton Rouge Park & Recreation	21,500	2,800	24,300
Calcasieu Parish Data Management	0	2,800	2,800
Chacahoula Basin Hydro Monitoring	1,600	24,000	25,600
Donaldsonville Master Plan	800	0	800
Eagle Point Advanced Plan	0	47,400	47,400
East Baton Rouge Levee Improvements	42,800	50,000	92,800
East Baton Rouge City/Parish	0	40,400	40,400
Gretna Levee Top Plan	37,500	27,400	64,900
Iberia Parish Master Plan	20,000	4,000	24,000
St. Martin Parish Master Plan	0	25,000	25,000
Jefferson Parish	10,400	65,600	76,000
Lower St. Martin Parish Master Plan	4,000	30,000	34,000
Opelousas Master Planning	0	24,000	24,000
Pointe Coupee Parish Master Plan	20,000	25,000	45,000
Plaquemines Parish Master Plan	20,000	25,000	45,000
Port Fourchon	-5,200	5,900	700
St. Charles West Bank Recreation	2,700	6,900	9,600
State Penitentiary H&H	0	2,400	2,400
Town of Henderson Master Plan	20,000	0	20,000
Subtotal	\$319,900	\$509,700	\$829,600
TOTAL (Category 100)	\$3,709,629	\$2,520,825	\$6,230,484

TABLE 11H
(Continued)

ACTIVE GENERAL INVESTIGATIONS
(96×3121)

Item and CWIS Number	Fiscal Year Cost		
	Federal	Non-Federal	Total
Collection and Study of Basic Data (Category 200)			
Bi-State Hurricane Transportation	2,800		2,800
Covington, LA	1,500		1,500
Digitized Records	26,600		26,600
GIS, LA	748,100		748,100
Town of Livingston, LA	1,100		1,100
Southeast Louisiana Hurricane Evac	49,800		49,800
Flood Plain Management Services	16,800		16,800
Floodproofing Workshop	15,500		15,500
FPM-Quick Responses	4,400		4,400
NFPC	7,600		7,600
Southwest Louisiana Hurricane Evac	500		500
Technical Services, General	49,000		49,000
Subtotal	\$923,700		\$923,700
Total (Category 200)	\$923,700		\$923,700
Preconstruction Engineering and Design (Category 600)			
	<u>Flood Control Projects (650)</u>		
Port Fourchon, LA	2,421,345		2,421,345
Subtotal	\$2,421,345		\$2,421,345
Total (Category 600)	\$2,421,345		\$2,421,345
GRAND TOTAL GENERAL INVESTIGATIONS	\$7,054,674	\$2,520,865	\$9,575,539

VICKSBURG, MS, DISTRICT

This district comprises western and central Mississippi, southern Arkansas, northern Louisiana, and a very small portion of southwestern Tennessee, embraced in drainage basins of eastern tributaries of Mississippi River south of Horn Lake Creek to and including Buffalo River; Pearl River Basin in Mississippi; independent tributaries of the Gulf of Mexico south of the Buffalo River Basin to the Mississippi-Louisiana state line; western tributaries of

Mississippi River between White and Atchafalaya Rivers including Arkansas River Basin below a point 3 miles upstream from Pine Bluff and Arkansas River below mile 36.1 near Pendleton, AR; Ouachita and Black Rivers in Arkansas and Louisiana; and Red River in Louisiana and Arkansas to the Texas-Arkansas state line. The Vicksburg District territory encompasses 68,000 square miles.

IMPROVEMENTS

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Navigation

1. OUACHITA AND BLACK RIVERS BELOW CAMDEN, AR

Location. Ouachita River rises in Polk County, AR, and flows southeasterly and southerly about 600 miles. Below its confluence with the Tensas and Little Rivers at Jonesville, LA, it is called Black River, which enters Red River 35.5 miles from the Mississippi River.

Previous projects. See page 683 of Annual Report for 1962 for details.

Existing project. See page 684 of Annual Report for 1962 for details of the old 6.5-foot navigation project. Modified project and project for Red River below Fulton, AR, provide for a channel 9 feet deep and 100 feet wide in Red River between Old River and mouth of Black River, and in Black and Ouachita Rivers from mouth of Black River to Camden, AR. Authorized features for the modified project include four new locks and dams, in-river construction dredging to achieve a 9-foot navigation channel depth, and channel realignment. All 4 locks and dams are complete and in operation and initial channel dredging is complete providing 9-foot navigation depth. Remaining work consists of realignment of 25 restricted bendway sites between river miles 195 at Sterlington, LA, and river mile 335 at Camden, AR, on the Ouachita River. With these improvements in place the river system will be navigable by a four-barge tow (two abreast) to Crossett, AR, river mile 237, and a two-barge tow (abreast) to Camden, AR. Mitigation features include the 65,000-acre Felsenthal National Wildlife Refuge in Arkansas, the 18,000-acre D'Arbonne National Wildlife Refuge in Louisiana, a series of recreation facilities along the waterway, and improvements to Catahoula Lake to preserve it for migratory waterfowl. Estimated total cost for the nine-foot navigation project is \$281,009,000 which includes \$263,000,000 Federal costs and \$18,009,000 non-Federal costs.

Local cooperation. Local interests are required to furnish the construction rights-of-way for the realignment work. Seven of the 25 sites are within the Felsenthal National Wildlife Refuge and are already owned by the Federal Government. However, there have been no indications that the land for the remaining 18 sites will be forthcoming because of strong opposition to the realignment work by local environmental groups. The six remaining recreation facilities are unscheduled at this time due to the lack of required cost sharing agreements.

Terminal facilities. Public loading docks are at Columbia, LA, and Camden and Crossett, AR. Privately owned docks and loading and unloading facilities are at Columbia, Monroe, and Sterlington, LA, and El Dorado, Calion, and Camden, AR. Two grain-handling facilities and a petroleum-loading facility are in the vicinity of Jonesville, LA, a grain-handling facility is in the vicinity of Acme, LA, and a petroleum-loading facility is in the vicinity of Smackover, AR.

Operations and results during fiscal year.

In FY 03, maintenance dredging was performed from Camden, AR, to the mouth of the Black River by the contract Dredge Butcher and Dredge Tulsa, 827,601 cubic yards of material were moved from the navigation channel.

Condition as of Sep. 30. The project is 92 percent complete and provides limited navigation as far north as Camden, AR. All four locks and dams associated with the project are complete and in operation. Design and construction of the remaining features is on hold pending a consensus between the states of Arkansas and Louisiana concerning the type of development desired or the additional studies needed to reach a decision.

2. RED RIVER EMERGENCY BANK PROTECTION

Location. In northwest Louisiana, southwest Arkansas, and northeast Texas, along the Red and Old Rivers between the Mississippi River and the head of the levee system above Index, AR.

Existing project. Provides for realigning the banks by means of cutoffs and training works and for stabilizing banks by means of revetments, dikes, and other methods as emergency conditions may require in advance of developing the design for the entire Red River Waterway project. Estimated cost for this work (October 2003) is \$133,400,000 Federal and \$2,182,000 non-Federal, including a cash contribution of \$7,000.

Local cooperation. Fully complied with. For details see pages 11-19 to 11-20, Annual Report FY 80.

Operations and results during fiscal year. Construction was completed on Pleasant Valley Revetment and Hunter's Island Revetment in ARK.

Condition as of Sep. 30. Construction was initiated in October 1972 and is 99 percent complete.

3. RED RIVER WATERWAY PROJECT

J. Bennett Johnston Waterway

Location. From east central to northwest Louisiana along the Red and Old Rivers between the Mississippi River and Shreveport, LA.

Existing project. Provides a navigation route from the Mississippi River at the junction with Old River via Old and Red River to Shreveport, LA, developing a channel approximately 236 miles long, 9 feet deep, and 200 feet wide. The development includes five locks and dams, realignment and contraction of the river as necessary to develop an efficient channel, and bank stabilization as necessary to hold the newly developed channel in position. Facilities to provide and acquisition of wildlife mitigation lands opportunities for recreation and for fish and wildlife development and acquisition of wildlife mitigation lands are an integral part of the project. Estimated cost for new work (October 2003) is \$1,902,398,000 Federal and \$107,455,000 non-Federal. The Federal cost includes \$601,000 for aids to navigation by U.S. Coast Guard.

Local cooperation. For details see page 11-21, Annual Report FY 80.

The Red River Waterway Commission, governing body of the Red River Waterway District, executed an act of assurance for all project features in Louisiana on Feb. 26, 1969, supported by resolution dated Jan. 30, 1969. The assurances were accepted for and on behalf of the United States on Apr. 15, 1969. The Commission furnished amended assurances covering the provisions of Public Law 91-646 and Public Law 91-611 on May 23, 1973, for the portion of the project within Louisiana. These were accepted for and on behalf of the United States on Nov. 14, 1973. A Local Cooperation Agreement between the Department of the Army and the Red River Waterway Commission for the acquisition of mitigation lands in the vicinity of Loggy Bayou Wildlife Management Area was executed on Jun. 16, 1993, and a project cooperation agreement between the same agencies for the acquisition of mitigation lands in the vicinity of Bayou Bodcau was executed on July 17, 1996.

Terminal facilities. Local interests are to provide adequate terminal facilities along the waterway. The Corps entered into an agreement with the City of Alexandria, LA, whereby material excavated from the Philip Bayou Realignment could be used as fill for port construction at mile 109. Construction of the

realignment and port fill are complete. Construction of the Caddo—Bossier and Natchitoches Parish ports are complete. Construction of the Red River Parish Port will start in FY 03.

Operations and results during fiscal year. The following contracts were completed in FY 03: Alligator Bayou/Blakewood Lake ACM, Pool 1 Reinforcements, Piermont Reinforcements, and Nicholas reinforcement. Several channel training works will be initiated and completed in FY 04 to refine the reliability and safety in the navigation channel.

Maintenance dredging was performed along the waterway by the Contract Dredge Butcher and Contract Dredge Tulsa, during Fiscal Year 2003. 773,000 cubic yards of material were removed from the navigation channel.

Condition as of Sep. 30. Construction was initiated in July 1973, and project is 93 percent complete.

Feasibility phase studies were authorized by WRDA 96 to determine the feasibility of extending navigation on the Red River from the vicinity of Shreveport, LA, to the vicinity of Index, AR, or to any justifiable interim point were initiated in Mar 99. Feasibility studies were completed in Sep 02. The Arkansas Red River Commission is the non-Federal sponsor.

4. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Sec. 107, Public Law 87-645, as amended.

In FY 03, \$14,995 was expended on Section 107 Coordination Accounts; \$130,202 on Yazoo Diversion Canal, MS; \$234,458 on Natchez-Adams County Port, MS.

Flood Control

5. ALOHA-RIGOLETTE AREA, LA

Location. The project is located in north-central Louisiana between the towns of Winnfield and Pineville on the left descending bank of the Red River.

Authorized Project. The recommended plan consists of a three-barrel floodgate structure installed at the mouth of Bayou Darrow to reopen it to the Red River, 8.2 miles of clearing and snagging on Bayou Darrow from its mouth upstream to Bayou Rigolette, construction of a closure and low-flow structure on

Bayou Rigolette just below its junction with Bayou Darrow, and realignment of Sam's Bayou and appropriate mitigation features.

Local Cooperation. The City of Colfax, LA, has agreed to cost share this project. The Project Cooperation Agreement was signed on Sept. 19, 1994.

Operations And Results During Fiscal Year. Construction is complete on the Bayou Darrow Structure. Construction on Item 3 is underway.

Condition as of Sep. 30. Construction underway on Item 2, and Item 3.

6. MCKINNEY BAYOU, AR

Location. The project area is located in southwestern Arkansas in the vicinity of Texarkana, AR and TX. The McKinney Bayou area is a crescent-shaped watershed located adjacent to the Red River containing approximately 340 square miles.

Existing project. The authorized project consists of flow diversion to the Red River at the state line between Arkansas and Texas, flow diversion into the Red River at Buzzard Bluff, improvement of McKinney Bayou channel, and land acquisition for mitigation. The State Line Diversion, Buzzard Bluff Diversion, and channel improvement features have subsequently been reclassified to the inactive category due to a lack of local support or lack of economic justification. Alternative plans developed to reduce flooding consisted of various channel improvements on the lower 27.6 miles of McKinney Bayou. A clearing and snagging alternative with project first costs of \$3.2 million and a plan combining clearing and snagging with channel improvement with project first costs of \$4.9 million were found economically feasible. Shortly after initiation of reconnaissance studies, Headquarters, U.S. Army Corps of Engineers, in an effort to streamline the study process, approved proceeding directly from the reconnaissance phase to preconstruction engineering and design (PED), subject to reconnaissance study finding being substantially in accordance with the authorized McKinney Bayou project and with previous U.S. Army Corps of Engineers, New Orleans District, study findings. Under this arrangement, the cost-shared feasibility phase would be eliminated. Study findings substantiated this decision. As a result, it was recommended that the study effort progress into PED. The reconnaissance report was approved by the U.S. Army Corps, Mississippi Valley Division, on May 12, 1997. The plan recommended for implementation would be developed during PED.

The local cost-sharing sponsors, the Miller County Improvement and Drainage District and the McKinney Bayou Drainage District have indicated by letters dated Sep. 24, and Sep. 30, 1997, respectively, that they do not have the financial resources to undertake project construction. Therefore, they do not wish to continue into the next project development phase, PED. The project is being held in abeyance pending further developments regarding the local sponsor's ability to cost-share. If this cost-sharing issue cannot be resolved, all activities associated with the project will be terminated and it will be classified as inactive.

Condition as of Sep. 30. A new start reconnaissance study was initiated in January 1996. This restudy of the authorized project to address the feasibility of channel improvements on McKinney Bayou to reduce flooding of agricultural and other properties was completed in March 1997. Project is approved to proceed directly into preconstruction engineering and design pending execution of a PED cost sharing agreement.

7. OUACHITA RIVER LEVEES, LA

Location. East bank of Ouachita River between Bastrop, LA, and Sandy Bayou. Loop levees on the west bank at West Monroe, Columbia, and Bawcomville.

Existing project. There are 105.8 miles of levee on the east bank and 11.6 miles of levee in the three loops on the west bank. A Summary Report authorized gravel surfacing 117.4 miles of levee, and enlarging 36.6 miles of levee. Estimated Federal cost is \$30,417,000. Estimated non-Federal cost is \$5,404,000.

Local cooperation. Requirements and assurances of local cooperation are fully described on page 12-6 of FY 80 Annual Report. A supplemental agreement for the Bawcomville segment was executed in FY 90.

The 1991 Water and Energy Appropriations Act gave the Federal government responsibility for the repair and/or replacement of the deteriorated drainage structures. The Assurances Agreement for Local Cooperation was supplemented to reflect this change in responsibility. The supplemental agreement covered work performed since Fiscal Year 1992.

Condition as of Sep. 30. Item 1 of the Monroe to Sandy Bayou Levee enlargement project was completed Jul. 7, 1978. Additional work was deferred pending results of a comprehensive study of the entire Ouachita River Levee System. A summary report indicating that it is economically feasible to raise portions of the

existing levee to authorized grade and that complete rehabilitation of the levee system as necessary was approved by MVD on Oct. 1, 1986. The study results were disseminated to the project sponsor and interested parties in October 1986. The Project was reclassified as an active project on May 7, 1987. The final summary report was sent to the Office of the Chief of Engineers in July 1988 and design was initiated on the Bawcomville segment of the Ouachita River levees. A construction contract for the Bawcomville levee enlargement is complete. All of the deteriorated culverts have been replaced and/or rehabilitated. A contract to repair the last structure was awarded in FY 02. Item 1 of the Bastrop to Monroe Levee enlargement was completed in October 2001. Item 2 was awarded on 2 December 2003.

8. OUACHITA RIVER AND TRIBUTARIES, AR AND LA

Location. Improvements comprising comprehensive projects are on main stem Ouachita River, AR and LA, on its tributaries, Caddo and Little Missouri Rivers, and in Pine Bluff, AR. Description of Ouachita River Basin is presented in greater detail on page 690 of Annual Report for 1962.

Existing project. The authorized general plan for flood control and other purposes in the Ouachita River Basin includes the projects listed in Table 12-E. The 1966 Flood Control Act modified the Bayou Bartholomew and Tributaries, AR and LA, project to include 10 water-retention lakes in the western tributaries of Bayou Bartholomew in Arkansas and 6 local levee units along the main stem of the bayou in Louisiana.

Local cooperation. Fully complied with for completed features of comprehensive project. (See individual statements for further details.)

Operations and results during fiscal year. Operations for Blakely Mt. Dam-Lake Ouachita, DeGray Lake, Narrows Dam-Lake Greeson, Bayou Bartholomew and Tributaries, and Ouachita River Levees are shown in individual reports in 1985.

Condition as of Sep. 30. Pertinent data on those features which are complete or not started are in Table 12-E. Conditions of Blakely Mt. Dam-Lake Ouachita, DeGray Lake, and Narrows Dam-Lake Greeson are given in the individual reports in 1985 report.

Reconnaissance studies of flooding problems in Ouachita Parish, LA, were initiated in January 1994.

Study efforts are concentrating on the developing urban area around Monroe, LA. The reconnaissance report, completed in January 1995, recommended a feasibility study be conducted on flood reduction for the River Styx Bayou area under authority of Section 205 of the Flood Control Act of 1948, as amended. The study addressed alternative sized pumping stations. The final Detailed Project Report was completed in November 1995. The construction contract is complete.

9. PEARL RIVER BASIN, MS AND LA

Location. The basin comprises most of the South-central portion of Mississippi and a small part of southeast Louisiana. The Pearl River begins in Neshoba County, MS, and flows southwesterly 113 miles to the vicinity of Jackson, MS, then southeasterly 233 miles to the vicinity of Bogalusa, LA. At that point, the Pearl River splits into the East and West Pearl Rivers, and flows southerly 44 and 48 miles, respectively, before entering the Rigolets and Lake Borgne.

Existing projects. The Jackson-East Jackson Flood Control Project provides for improvements of the Pearl River at Jackson, MS. This project includes two levee systems totaling 13.2 miles in length, with two pumping stations, four gated outlets, and 18.9 miles of channel rectification including three cutoffs with a total length of 2.2 miles in the Pearl River. This project was authorized by the Flood Control Act of Jul. 14, 1960. Construction began in July 1964 and work was completed in FY 68. Total Federal cost of the project was \$7,190,200. The FY 83 Jobs Bill authorized extension of the Jackson-East Jackson West Bank levee system along the Fortification Street I-55 exit. This extension was initiated and completed in FY 84.

Public Law 98-63, dated Jul. 29, 1983, authorized the vicinity of Jackson project. This authority provided for additional measures to prevent recurring flood damages along the Pearl River at Jackson and included 3.3 miles of floodway clearing and enlarging the opening at the Highway 25 Bridge. This work has been completed. Mitigation lands for the clearing were purchased by the local sponsor in May 1985 and the Corps has reimbursed the local sponsor to cover the cost of these lands. Total Federal cost of this project is \$1,800,000.

Authorized projects. Public Law 99-88, dated Aug. 15, 1985, authorized planning, design, engineering, and construction of a levee system in Slidell, LA, to protect 3,265 residential and commercial structures from floods in the West Pearl. Public Law 99-662, dated Nov. 17, 1986, authorized

construction of Shoccoe Dam and various flood control measures for Carthage-Leake County, MS.

Local cooperation. Requirements are described in full on page 12-6 of the FY 92 report.

Condition as of Sep. 30. An overall basin study is essentially complete, except for alternative studies to Shoccoe Dry Dam as discussed below. Flood control feasibility studies for Slidell, LA, recommending a 15-mile levee system, and for Jackson, MS, recommending Shoccoe Dam have been completed. Detailed engineering and design studies for the Slidell levees have been terminated due to the lack of a local sponsor. As a result of upstream opposition, Shoccoe Dam is not implementable. In response to a request by the local sponsor, the Pearl River Basin Development District, reconnaissance studies to evaluate alternatives to Shoccoe for flood damage reduction in the Jackson Metropolitan Area have been completed and a potentially feasible levee plan identified. A Feasibility Cost Sharing Agreement was signed with the Local Sponsor on Sep. 25, 1991. The feasibility studies focused on a comprehensive levee system and other flood control measures across the basin to reduce damages associated with flooding from the Pearl River. The Feasibility Study was suspended in July 1998 due to the lack of a cost sharing sponsor. Discussions are continuing with potential sponsors to restart feasibility studies to investigate other alternatives to include a lakes plan extending downstream of Ross Barnett Reservoir through the Jackson Metropolitan area. The feasibility cost sharing agreement necessary to resume feasibility studies is anticipated to be signed with the Rankin-Hinds Pearl River Flood and Drainage Control District in early FY 04. Studies of various flood control measures for Carthage-Leake County, Columbia and Picayune, MS; Bogalusa, LA, and the Bogue Chitto Subbasin have been completed. None were found economically feasible. Navigation studies have been conducted on the East and West Pearl Rivers. Results of these studies indicate that maintenance necessary to reopen the existing West Pearl River navigation project is economically justified. The final EIS was filed with EPA in March 1994. Studies indicate that the West Pearl River Navigation Project is economically justified, engineeringly feasible, and in the overall public interest. Maintenance dredging was to resume in the spring of 1995; however, environmental litigation seeking declaratory and injunctive relief was filed and the Corps was enjoined to dredge any portion of the project. Also in 1995, the Corps officially placed the project in a caretaker status by directing that limited funds for the project be used for maintenance of the project in caretaker status. Investigation directed toward project deauthorization were initiated in FY 03.

10. PEARL RIVER, SLIDELL, ST. TAMMANY PARISH, LA

Location. The project is located in the southeastern portion of the State of Louisiana and consists of the area bounded by the West Pearl River on the east, Interstate 10 on the west, and Lake Pontchartrain on the south.

Authorized project. The project is broken into two segments of levees. The segment north of I-10 will consist of 4.0 miles of levee, a pumping station, a floodgate structure, and minor drainage structures. This levee will protect the Slidell area north of I-10 from flooding associated with a 200-year hydrological event on the Pearl River. The segment south of I-10 will consist of 9.0 miles of levees, three pumping stations, floodgates, and minor drainage structures. This levee will protect the Slidell area south of I-10 from flooding associated with a 200-year hydrological event on the Pearl River and provides the same level of protection against hurricane surges. These two levee segments total 13 miles of levee and would protect some 3,029 homes. Estimated Federal cost is \$28,437,000. Estimated non-Federal cost is \$9,479,000.

Local cooperation. The project sponsor, St. Tammany Levee Board, and the Assistant Secretary of the Army (Civil Works), in an agreement consistent with the Fiscal Year 1985 Supplemental Appropriation Act Public Law 99-88) and Senate Report 1567, signed the Local Cooperation Agreement Jun. 30, 1986. The 1997 Louisiana Regular Legislative Session abolished the St. Tammany Levee District.

Operations and results during fiscal year. This project has been terminated due to the abolishment of the project sponsor.

Condition as of Sep. 30. Completed resolution of comments on the General Design Memorandum for north levee only. Preparation of plans and specifications has been terminated. No construction has taken place.

11. RED RIVER BELOW DENISON DAM (VICKSBURG DISTRICT)

Location. On Red River and its tributaries below Denison Dam, in Oklahoma, Arkansas, Texas, and Louisiana. (Refer to Geological Survey State maps and folio "Maps of Red River" - 1958 edition.)

Existing project. Flood Control Act of 1946 approved general plan for flood control on Red River below Denison Dam, TX and OK, which provides for construction of six flood control reservoirs in

combination with existing or authorized Federal and non-Federal levee improvements, modified as required, and channel stabilization at locations where levee setbacks are impossible or uneconomical. This act further authorized incorporation of several separate existing projects for flood damage prevention along Red River below Denison, above jurisdiction of the MRC, into this project. By Public Law 780, 83rd Cong., 2nd sess., as amended by Public Law 218, 84th Cong., 1st sess., and Public Law 645, 86th Cong., 1st sess., plan of improvement was amended to include additional projects as indicated in following lists of reservoirs and local protection works considered in general flood control plan for the Red River below Denison Dam, and existing flood control projects incorporated into project in Vicksburg District. (See Table 12-F for new projects and Table 12-G for incorporated projects.)

Local cooperation. See individual reports herein.

12. RED RIVER BELOW DENISON DAM, LEVEES AND BANK STABILIZATION (VICKSBURG DISTRICT)

Location. Along the main stem of the Red River from the head of the levee system immediately above Index, AR, through the southwest corner of Arkansas to the vicinity of Boyce, LA, on the right bank, and Pineville, LA, on the left bank.

Existing project. Raising and strengthening existing and authorized Red River levees to provide protection against flooding and bank protection works at locations where levee setbacks are impossible or uneconomical. The plan consists of raising and strengthening existing and authorized Red River levees to provide against a flood approximately 20 percent greater than the flood of 1945, the flood of record, as modified by authorized reservoirs. Bank protection works are to be constructed at locations where levee setbacks are impossible or uneconomical. Estimated cost for new work (October 2003) is \$81,975,000 Federal and \$3,241,000 non-Federal.

Local cooperation. Requirements of local cooperation are fully described on page 12-10 of FY 1984 Annual Report.

Operations and results during fiscal year. Construction is complete on Dillard Revetment. Construction on Levee Item 5 is underway.

Condition as of Sep. 30. Construction is underway on Levee Item 5 and Dillard Revetment. Construction was initiated in February 1948 and the levee and bank

stabilization are complete with the exception of levee rehabilitation within the state of Arkansas. Construction was initiated on the rehabilitation of levee Item 5 in Arkansas.

13. WEST AGURS, LA, LEVEE

Location. The West Agurs, LA, Levee is located in Caddo Parish in northwestern Louisiana, immediately adjacent to the northern corporate limits of Shreveport.

Existing Project. The West Agurs levee was constructed by local interests in 1961 and incorporated into the Federal project Red River Below Denison Dam Project in 1983. The levee extends from U.S. Highway 71 at the north end of the area to the Texas and Pacific Railroad at the lower end, a distance of approximately 3 miles. In addition to the levee, appurtenant interior drainage works include a borrow pit channel at an approximate bottom elevation of 150.0 feet NGVD, a 55 CFS pumping station, and one 10- by 10-foot floodgate. The entire system was designed to protect the 700-acre West Agur area from Twelve Mile Bayou headwater and Red River backwater flooding. Total Federal cost is \$0.

Local Cooperation. The Caddo Levee District completed levee improvements consisting of a temporary ponding area required for the levees to be incorporated into the Federal project in 1983. The West Agur levee was incorporated into the Federal system in 1983. Operation and maintenance of the levee is the responsibility of the Caddo Levee District.

Condition as of Sep 30. Studies of flooding problems in the West Agur area conducted under the authority of Section 205 of the 1948 Flood Control Act as amended were completed in March 99. The report completed in December 1998 recommends an additional 55 cfs pump to provide flood protection to commercial and industrial properties located within the leveed area. Construction was initiated in FY 03 and will be completed in FY 04.

14. TENSAS RIVER BASIN, LOUISIANA

Location. The Tensas River Basin is bounded by the Mississippi River on the east and the Ouachita-Black Rivers on the west, and extends southward from the Louisiana/Arkansas state line to Old River control Structure in Concordia Parish, Louisiana. Parts or all of Catahoula, Concordia, East Carroll, West Carroll, Ouachita, Franklin, Madison, Morehouse and Tensas Parishes lie in the basin. It encompasses approximately 3.3 million acres with over 50 lakes and streams, 4

national wildlife refuges, 11 wildlife management areas, 1 state wildlife refuge, 1 game and fish preserve, 2 state parks, 2 ports, and a historical site at Poverty Point. Four pumping plants and numerous weirs and drainage structures are also located in the area.

Existing Project. Flooding, water supply, and the decline of environmental resources are problems in the basin. In particular, this ecosystem is being rapidly degraded from pollution of water, sedimentation, and frequent and excessive flooding. Possible solutions to the problems include channel improvements, drainage structure(s), and weir(s).

A comprehensive study is required to balance these competing demands and is critical for this area to ensure the wise and efficient use of the basin's water resources. The study scope is more in accord with that requiring a comprehensive watershed approach to these problems, based on the size and complexity of the area (5,141 square miles with very sensitive environmental resources and complex hydrologic conditions), the need for multi-agency coordination, and the potential for multiple sponsors due to the potentially large project implementation cost.

Conditions as of Sep. 30. Funds were not added in FY 03. Therefore, \$188,000 had to be reprogrammed to the subject project to complete the reconnaissance report. In order to adequately investigate the basin and provide the local sponsor with enough information for their decision to participate in a Feasibility Cost-Sharing Agreement, the total study cost estimate is \$350,000 and the required study duration is 18 months.

14. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Inspection of completed work was accomplished at a cost of \$283,336 for the fiscal year. Total cost as of Sep. 30, 2003, is \$6,371,006.

15. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Emergency flood control activities—repair, flood fighting, and rescue work. (Public Law 99, 84th Cong., and antecedent legislation.)

FY 03 costs for the period were \$457,300 for disaster preparedness.

Snagging and clearing of navigable streams and tributaries in the interest of flood control (Sec. 208

of 1954 Flood Control Act, Public Law 780, 83rd Cong.)

In FY 03, \$15,000 was expended on Section 208 coordination account; \$9,136 on Bakers Creek, Clinton, MS.

Emergency bank protection (Sec. 14 of 1956 Flood Control Act, Public Law 780, 83rd Cong.)

In FY 03, \$14,980 was expended on Section 14 coordination account; \$292,054 on Little Black Creek, Eupora, MS; \$127,202 on Bayou Pierre, Copiah County, MS; \$503,712 on Loggy Bayou, Bienville Parish, LA; \$17,997 on Fort Lookout, Ouachita River, AR; \$500,266 on Parker Bayou, Pearl River County, MS; \$9,062 on Lynch Creek, Jackson, MS; \$31,027 on Eubanks Creek, Jackson, MS; \$48,302 on Port Bienville Industrial Park Drainage Ditch; and \$58,552 on Dillon's Bridge, Bogue Chitto River, MS.

Flood control activities pursuant to Sec. 205, Public Law 858, 80th Cong., as amended (preauthorization).

In FY 03, \$15,009 was expended on Section 205 coordination account; \$80,732 on Red Chute Bayou levee, LA; \$613,554 on Two Bayou, Camden, AR; \$17,117 on Twelve Mile Bayou, LA; \$116,001 on King's Point Island, MS; \$10,070 on City of Richland, MS; \$10,025 on City of Florence, MS; \$23,000 on Gin Bayou, MS Valley State, MS; \$2,600 on North Natchez, Adams County, MS; \$39,796 on Tchula Lake, Tchula, MS; \$16,724 on Moorhead Bayou, Sunflower County, Moorhead, MS; \$28,711 on McKinney Bayou, Tunica County, MS; \$9,965 on Patterson Bayou, Blue Cane, Tallahatchie County, MS. During FY 03, \$2,793,987 was expended on permit evaluations; \$174,226 on enforcement; \$4,414 on appeals. A total of \$2,972,627 was expended in FY 03.

16. ECOSYSTEM RESTORATION WORK UNDER SPECIAL AUTHORIZATION

Project modifications for improvement of environment pursuant to Sec. 1135, Public Law 99-662, as amended (preauthorization).

In FY 03, \$14,991 was expended on Section 1135 coordination account; \$332,357 on Sulphur River, LA; \$50,075 on Bayou Macon, AR; \$41,820 on Rammel Dam, AR; \$25,865 on Frazier/Whitehorse Oxbow, LA; \$5,122 on Old River, Lake Providence, LA; \$183,456 on Lake Whittington, MS; \$37,951 on Bayou Macon, LA; \$64,293 on Dump Lake, Yazoo County,

MS; \$49,445 on Boeuf River, Point Jefferson, LA; \$95,573 on Steep Bank Creek, AR; \$1,003 on Snake Creek, Yazoo River, Humphreys County, MS; \$208 on Tchula Lake, MS; \$8,743 on Cannon Brake/Lower Vallier, AR; and \$4,835 on Sunflower River, MS Delta Section, MS; \$4,001 on Lower Deer Creek, MS Delta Section, MS; and \$44,280 on upper Deer Creek, MS Delta Section, MS.

Aquatic Restoration pursuant to Section 206, P.L. 104-303.

In FY 03, \$14,987 was expended on Section 206 coordination account on Indian Bayou, Indianola, MS; \$52,868 on Lake Bruin, Tensas Parish, LA; and \$10,000 on Lake Chicot Nursery Pond, Chicot County, AR.

17. CATASTROPHIC DISASTER PREPAREDNESS PROGRAM

During FY 03, \$57,600 was expended on continuity of Government, and \$13,100 on EOC Support and Facilities. Total costs for FY 03 were \$70,700.

18. GENERAL REGULATORY PROGRAM

During FY 02, \$2,349,840 was expended on Permit Evaluation; \$160,026 on Enforcement; and \$3,645 on appeals. A total of \$2,509,866 was expended in FY 02.

TABLE 12-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 99	FY 00	FY 01	FY 02	FY 03	Total Funds to Sep. 30, 2003
	Ouachita and Black Rivers below Camden, AR (6.5-foot navigation project)	New Work Approp.\$ Cost	-- --	-- --				\$ 5,248,619 ¹ 5,248,619 ¹
1.	Ouachita and Black Rivers below Camden, AR (9-foot navigation project)	New Work Approp. Cost Maint. Approp. Cost	150,000 3,573	-- 42,650	-- 66,715			230,759,251 ² 230,223,172 ²
			7,403,000 7,683,567	8,637,285 8,638,451	6,467,033 6,488,189			161,844,421 161,630,608
2.	Red River Emergency Bank Protection	New Work Approp. Cost		7,355,000 7,830,942	4,766,900 4,907,647	1,369,000 1,392,000	5,655,541 5,662,449	84,647,441 85,780,449
	(Contrib. Funds)	New Work Contrib. Cost	-- --	-- --	-- --			6,825 6,825
3.	Red River Waterway Mississippi River to Shreveport, LA	New Work Approp. Cost Maint. Approp. Cost		17,494,000 18,418,154	17,520,000 18,000,234	20,123,000 20,232,000	17,255,202 17,577,824	1,770,080,200 1,749,748,824
			9,309,400 9,374,662	13,820,867 13,808,395	13,987,686 13,328,794			117,723,744 115,968,594
	(Contrib. Funds)	New Work Contrib. Cost	-150,893 --	-- --	-- --			4,916,659 4,879,967
5.	Aloha- Rigolette, LA	New Work Approp Cost		748,000 823,559	-- 38,007	200,000 235,000	237,000 261,107	9,495,800 9,176,313
6.	Contrib. Funds	New Work Approp. Cost	138,000 156,900	250,000 397,923	150,200 6,022	48,377		938,200 1,036,498
	(Contrib. Funds)	New Work Approp. Cost	-- --					-- 32,553

TABLE 12-A COST AND FINANCIAL STATEMENT
(Continued)

See Section in Text	Project	Funding	FY 99	FY 00	FY 01	FY 02	FY 03	Total Funds to Sep. 30, 2003
7.	Ouachita River Levees, LA	New Work						
		Approp.	--	300,000	-43,000	405,000	53,000	25,178,758
		Cost	462,763	1,370,435	86,337	365,937	97,289	24,648,495
9.	Pearl River Vicinity of Jackson, MS	New Work						
		Approp.	--	--	--	80,000	39,070	2,199,000
		Cost	--	--	--	78,905.04	40,016	2,198,920
	Pearl River Walkiah Bluff	New Work						
		Approp.	1,560,000	1,000,000	1,144,000	100,000	15,000	7,619,000
		Cost	1,561,608	1,963,685	1,109,135	11,668	23,310	7,618,656
		Maint.						
		Approp.	124,400	--	--			2,760,900
		Cost	128,840	--	--			2,667,808
	(Contrib. Funds)	New Work						
		Approp.	977,500	220,000	--			2,050,054
		Cost	680,951	636,852	--			2,020,788
10.	Pearl River, Slidell, St. Tammany Parish, LA	New Work						
		Approp.	--	--	--			3,586,000
		Cost	--	--	--			3,682,404
11.	Red River below Denison Dam Levees and Bank Stabilization (Vicksburg District)	New Work						
		Approp.	--	--	100,000	3,609,200	2,742,073	2,751,073
		Cost	1,466,232	809,399	385,808	3,662,000	2,738,251	2,858,160
	Natchez Bluff	New Work						
		Approp.	4,000,000	1,962,000	300,000	138,000	59,300	19,169,300
		Cost	5,404,158	4,260,032	3,255,301	360,000	159,631	12,222,377
		(Contrib. Funds)						
		Approp.	741,000	939,200	1,455,300	--		3,735,500
		Cost	985,665	1,191,494	1,358,551	823,547		4,462,057

1. Includes \$674,068 for new work on previous projects.
2. Includes \$3,312,000 PL 98-8 Jobs Bill. Excludes \$47,854,000 previously allocated to New Orleans District.
3. Excludes New Orleans District allocation and cost.

12-12

TABLE 12-B
(Continued) **AUTHORIZING LEGISLATION**

Acts	Work Authorized	Documents
Water Resources Development Act of 1996	NATCHEZ BLUFFS, MS Authorizes bluff stabilization in accordance with the Natchez Bluff study at a total cost of \$17,200,000, estimated federal cost of \$12,900,000 and non federal cost of \$4,300,000.	Public Law 104-303
Jun. 30, 1948 as amended	CHAUVIN BAYOU, LA Construction of a 250-cfs pumping plant located adjacent to Chauvin Bayou at the Ouachita River levee and a water control structure in Canal L-11.	Sec. 205 of the Flood Control Act of 1948, as amended. Authorized by the Chief of Engineers Feb. 6, 1990.
Jun. 30, 1948, as amended	LEAD BAYOU, MS Channel enlargement.	Sec. 205 of the Flood Control Act of 1948, as amended. Authorized by Chief of Engineers Jun. 10, 1980.
Jul. 29, 1983	MCKINNEY BAYOU, AR AND TX (See Section 6 of text) Authorizes a comprehensive study and recommendations for development and efficient utilization of water and related resources for the McKinney Bayou area, a tributary of Red Water.	Public Law 98-63 98th Cong., 1st sess.
Nov. 17, 1986	MONROE AND WEST MONROE, LA, AND OUACHITA PARISH, LA Authorizes such structural and nonstructural measures as the Secretary deems feasible to prevent flood damage to the cities of Monroe and West Monroe, LA, and Ouachita Parish, LA.	Public Law 99-662, 99th Cong., 2d sess.
May 17, 1950	OUACHITA RIVER AND TRIBUTARIES, AR AND LA (See Section 8 of Text) Authorized DeGray Lake; Murfreesboro Lake; extension of floodwall at Monroe to partially close the existing gap; local protection at Bawcomville, LA (subsequently constructed under Sec. 6, Act of May 15, 1928, with local interests contributing one third of cost); Bayou Bartholomew channel improvement, including Deep Bayou and Overflow Creek; Pine Bluff local protection; local protection at Calion, AR; and incorporation, into the Ouachita River and Tributaries project, of all existing projects and portions thereof in the basin above the lower end of the levees on the east bank of the Ouachita River. In addition, the Chief of Engineers authorized on Nov. 14, 1966, additional work on the levees.	S. Doc. 117, 81st Cong., 1st sess.

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TABLE 12-B
(Continued) **AUTHORIZING LEGISLATION**

Acts	Work Authorized	Documents
Water Resources Development Act of 1996	WRDA 96 modified the project to include dredging of the entrance to the Oxbow Lakes designated for preservation in project documentation and stated that the cost sharing for this dredging should be the same as the general navigation features.	Section 301, Public Law 104-303
Water Resources Development Act of 2000	WRDA 2000 modified the mitigation project to authorize the acquisition of lands in any of the parishes that comprise the Red River Waterway District, consisting of Auoyelles, Bossier, Caddo, Grant, Natchitoches, Rapides, and Red River Parishes.	
	RED RIVER BELOW DENISON DAM LEVEES AND BANK STABILIZATION (VICKSBURG DIST.) (See Section 12 of Text)	
Jul. 24, 1946	Levee and bank stabilization.	H. Doc. 602, 79th Cong., 2d sess.
Aug. 13, 1968	Deauthorization of Morringsport Dam and Reservoir on Cypress Creek; realining and stabilizing the banks of the Red River; and recreational facilities from the Mississippi River to Denison Dam, OK and TX.	H. Doc. 304, 90th Cong., 2d sess.
	RED RIVER WATERWAY-SHREVEPORT, LA, TO INDEX, AR	
Aug. 13, 1968	Provides for realinement of the channels of the Red River from Shreveport, LA, to Index, AR.	H. Doc. 304, 90th Cong., 2d sess.

TABLE 12-C

**OUACHITA AND BLACK RIVERS, AR AND LA
(9-FOOT PROJECT), LOCKS AND DAMS
(See Section 1 of Text)**

Location	Miles from Nearest Town	Miles Above Mouth of Black River	Width of Lock Chamber (feet)	Greatest Available Length for Full Width of Lock Chamber (feet)	Max. Lift at Low Water (feet)	Elev. Normal Pool Surface (feet msl)	Min. Depth on Lower Miter Still at Normal Pool Level (feet)	Character or Foundation	Kind of Dam	Type of Construction	Per- cent Com- plete	Total Estimated Project Cost
Jonesville, LA	10	25	84	600	30	34	14	Piling	Moving	Tainter gated dam; basculer gated navigation pass; steel mitring lock gates	100 ²	\$ 43,585,000
Columbia, LA	5	117	84	600	18	52	13	do	do	Tainter gated dam; fixedcrest navigation pass; steel mitring lock gates	95 ²	46,235,000
Felsenthal, AR	1	227	84	600	18	70 ¹	13	Earth	do	Tainter gated dam; hinged crest gated navigation pass; steel mitring lock gates.	88 ²	102,161,000
Calion, AR (H. K. Thatcher)	7	283	84	600	12	77	13	do	do	Tainter gated dam; hinged crest gated navigation pass; steel mitring lock gates.	88 ²	71,019,000
Estimated Federal Cost												\$263,000,000
Estimated Non-Federal Cost												18,009,000
Total Estimated Cost												281,009,000

1. Fish and wildlife impoundment level. Navigation pool elevation 65.

2. The percent complete reflects all work within the pool.

TABLE 12-D OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report For:	Cost to Sep. 2003		Mo. and Yr. Completed
			Construction	Operation and Maintenance	
Bayou Bartholomew, LA and AR ^{1,2,3,4}	--	1931	\$ 45,874	\$ 42,857	1
Bayous D'Arbonne and Corney, LA ^{1,2,4}	--	1941	19,000	37,804	1
Big Black River, MS ^{1,4,5}	--	1895	15,000	--	1
Big Sunflower River, MS ^{1,4,6,7}	--	1942	560,027	459,328	1
Boeuf River, LA ^{1,3,4,7,8,9}	--	1949	30,000	103,737	1
Claiborne County Port, MS	--	1985	2,000,000	775,509	Dec. 1983
Cypress Bayou and Waterway between Jefferson, TX, and Shreveport, LA ¹⁵	Complete	1971	202,817	452,611	Dec. 1914
Homochitto River, MS ⁴	--	1910	15,482	8,518	1
Lake Providence Harbor, LA	--	1985	208,537	7,273,493	Nov. 1963
Little Missouri River, AR ^{1,4,5}	--	1873	19,992	--	1
Little River, LA ^{1,4,5,10}	--	1890	1,500	--	1
Little Tallahatchie River, MS ^{1,7}	--	1913	19,000	--	1
Madison Parish Port, LA	--	1985	656,000	1,340,169	Dec. 1980
Mouth of Yazoo River, MS ^{1,7,11}	--	1953	1,179,211	11,323,203	1
Ouachita and Black Rivers, AR and LA, Felsenthal Canal	--	1937 ¹²	--	4,387,192	1
Overton-Red River Waterway, LA	--	1985	--	--	1
Pearl River, MS	--	1985	8,562,908	4,017,386	1956
Red River below Fulton, AR ^{1,16,17,18}	--	1978	1,963,806	2,147,890	1
Red River Waterway LA, AR, OK, and TX ^{1,17,18}	--	1969	1,752,402	--	1
Red River Waterway, Shreveport, LA to Daingerfield, TX ¹	--	1976	150,800	--	1
Removings snags and wrecks from Mississippi River below mouth of Missouri River and from Old and Atchafalaya Rivers ¹¹	--	1948	--	272,500	1
Rosedale Harbor, MS	--	1985	2,000,000	7,823,357	Sep. 1978
Saline River, AR ^{1,3,4,5}	--	1931	26,900	12,792	1
Tallahatchie and Coldwater Rivers, MS ^{1,4,5}	--	1939	43,481	173,066	1
Tensas River and Bayou Macon, LA ^{1,8,13}	--	1949	38,367	85,352	1
Yalobusha River, MS ^{1,4,5,14}	--	1937	7,000	15,936	1

**TABLE 12-D OTHER AUTHORIZED NAVIGATION PROJECTS
(Continued)**

Project	Status	For Last Full Report See Annual Report For:	Cost to Sep. 2003		Mo. and Yr. Completed
			Construction	Operation and Maintenance	
Yazoo River, MS	--	1987	9,341,826	1,217,492	¹
Yellow Bend Port, AR	Complete	1991	3,793,069	1,300,030	Aug. 1991

1. Status and Date unavailable.
2. Abandonment recommended in H. Doc. 1962, 64th Cong., 2d sess., and H. Doc. 467, 69th Cong., 1st sess.
3. Channels adequate for existing commerce.
4. Inactive project. No commerce.
5. Abandonment recommended in H. Doc. 467, 69th Cong., 1st sess.
6. Project curtailment recommended by elimination of work between Pentecost and mouth of Hushpuckena River. (Abandonment of entire project erroneously recommended in H. Doc. 467, 69th Cong., 1st sess.)
7. See report of Mississippi River Commission for operations in connection with Yazoo Basin.
8. Report of New Orleans District, pp. 919-920 for Fiscal Year 1949.
9. Project curtailment recommended by elimination of work above Girard, LA. (Abandonment of entire project recommended erroneously in H. Doc. 467, 69th Cong., 1st sess.)
10. Due to decline of traffic, local interests not sufficiently interested to provide rights-of-way and dumping privileges.
11. No additional funds available under this project. Work is being carried on under appropriation flood control, Mississippi River and tributaries.
12. Year authorized.
13. Inactive. Channel adequate for commerce.
14. See report of Mississippi River Commission for operations in connection with Yazoo Basin flood control project including channel clearing and rectification and Grenada Lake on Yalobusha River.
15. Excludes \$50,000 contributed funds.
16. Includes \$1,553,878 for previous projects.
17. Incorporated in the project "Red River Waterway-Mississippi River Shreveport, LA" Sept. 30, 1976.
18. Emergency bank protection on this project is reported separately as "Red River Emergency Bank Protection." Two reaches, "Red River Waterway-Mississippi River to Shreveport, LA" and "Red River Waterway-Shreveport, LA, Daingerfield, TX," are also reported separately.
19. Includes \$674,068 for new work on previous projects.

TABLE 12-E **OUACHITA RIVER AND TRIBUTARIES:**
EXISTING PROJECT
(See Section 10 of Text)

Project	For Last Full Report See Annual Report for:	Estimated Federal New Work Cost
Blakely Mt. Dam-Lake Ouachita, AR	1985	\$ 44,100,000
DeGray Lake, AR	1985	72,034,000 ²
Narrows Dam-Lake Greeson, AR	1985	20,900,000
Calion, AR	1960	970,996 ³
Columbia, LA	1941	204,740 ³
Existing levees and extensions thereto from Bastrop, LA, to mouth of Boeuf River and at West Monroe, LA	1961	3,025,181 ³
Little Missouri River below Murfreesboro, AR	1957	354,802 ³
Ozan Creek, AR	1957	57,742 ³
Terre Noire Creek, AR	1948	123,700 ³
Pine Bluff, AR, local protection	1954	172,582 ³
Monroe, LA, floodwall extension (Plan B)	1984	2,561,000 ³
Ouachita River Levees (additional work)	(¹)	<u>6,001,000</u>
Total		\$150,505,743 ⁴

1. See individual reports herein.

2. Includes \$5,800,000 for water supply to be reimbursed by local interests.

3. Actual cost of completed project.

4. Excludes the authorized Murfreesboro Lake, AR, project, which is inactive. The latest estimated cost (1954) was \$4,190,000.

TABLE 12-F
RED RIVER BELOW DENISON DAM
(VICKSBURG DISTRICT): NEW PROJECTS
(See Sec. 13 of Text)

Project	Stream	Drainage Area (square miles)	Conservation Storage (acre-feet)	Flood Control (acre-feet)	Estimated Federal Cost
Bayou Bodcau and tributaries, AR ² and LA	--	1,158	--	--	\$25,100,000 ³
Bayou Nicholas-Coushatta, LA	--	--	--	--	70,717 ⁴
Bayou Pierre in vicinity of Shreveport, LA ⁵	--	--	--	--	243,336 ³
Caddo Lake, LA ¹	Caddo Lake	--	--	--	3,586,000
Campti-Clarence Area in Natchitoches Parish, LA	Red River	--	--	--	1,950,000 ³
Garland City, AR ^{1,6}	--	--	--	--	1,450,000 ³
Maniece Bayou, AR	--	--	--	--	970,032 ³
McKinney Bayou, AR ^{7,8}	--	--	--	--	5,610,000 ³
Posten Bayou, AR and LA ^{2,6,9}	--	--	--	--	560,000
Red River below Denison Dam levees and bank stabilization, TX, AR, and LA ^{1,3}	--	--	--	--	81,975 ³
Total					99,191,885

1. Details presented in individual report herein.

2. Construction on this project not started.

3. In addition, non-Federal funds are:

Bayou Bodcau and tributaries, AR and LA	\$5,300,000
Bayou Pierre in vicinity of Shreveport, LA (cash contribution)	89,047
Caddo Lake, LA	28,000
Campti-Clarence Area in Natchitoches Parish, LA	480,000
East Point	67,000
Garland City, AR	6,000
Maniece Bayou, AR (cash contribution)	18,000
McKinney Bayou, AR (cash contribution)	508,000
Red River below Denison Dam, levees and bank stabilization, TX, AR, and LA	3,241,000

4. For last full report, see Annual Report for 1964.

5. For last full report, see Annual Report for 1951.

6. Inactive.

7. Includes \$4,330,200, Code 711, and \$399,739 accelerated Public Work funds.

8. Joint-use pool (sediment).

9. Deauthorized by resolution Dec. 17, 1970, which also authorized new project "Posten Bayou, AR," under provision of Sec. 201 of Flood Control Act of 1965.

TABLE 12-G
RED RIVER BELOW DENISON DAM
(VICKSBURG DISTRICT): INCORPORATED
PROJECTS (See Sec. 13 of Text)

Project	Type of Work	Flood Control Act	For Last Estimated Federal Cost	Full Report See Annual Report For:
Aloha-Rigolette Area, Grant and Rapides Parishes, LA	Levee and appurtenances	1941	\$ 1,653,237 ¹	1956
Bayou Bodcau Reservoir, LA ²	Flood-control reservoir	1938	5,120,7401	⁴
Bayou Bodcau, Red Chute, and Loggy Bayou, LA	Channel improvement	1941	319,200 ¹	1948
Bayou Pierre, LA	Channel enlargement	1936	255,529 ¹	⁴
Black Bayou Lake, LA ^{5,6}	Flood-control reservoir	1936	714,000	1945
Colfax, Grant Parish, LA	Cutoff	1938	70,348 ^{1,7}	1938
Grant Parish, below Colfax, LA	Levees	1938	38,809 ¹	1941
Hempstead County levee district No.1, AR	Levee enlargement	1938	88,006 ¹	1941
Natchitoches Parish, LA	Levee and appurtenances	1936	1,529,927 ^{1,8}	1956
Pineville, Red River, LA	Levee and appurtenances	1941	232,426 ¹	1953
Red River in vicinity of Shreveport, LA	Bank protection	1944	3,908,000 ¹	1953
Red River Parish, LA	Levee enlargement	1936	149,435 ¹	1939
Saline Point, LA	Cutoff	1936	124,111 ¹	1945
Wallace Lake, LA	Flood-control reservoir	1936	1,219,371 ^{1,3}	⁴
West Agurs, LA	Levee and appurtenances	1976	0	
Total			\$15,467,134	

1. Actual cost.

2. Project transferred to Vicksburg District, August 1982.

3. Includes amounts indicated for recreational facilities under Code 711, Bayou Bodcau Reservoir, LA, \$1,027,000; Wallace Lake, LA, \$17,164.

4. Included in this report.

5. Work not started.

6. Inactive.

7. Completed under provisions of Sec. 7 of Flood Control Act of 1928, as amended by Sec. 9 of Flood Control Act of 1936, and included in 1939 Annual Report of President, Mississippi River Commission, p. 2214.

8. In addition, \$25,000 was expended from contributed funds.

TABLE 12-H **OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Project	For Last Full Report See Annual Report For:	Cost to Sep. 2003		Mo. and Yr. Completed
		Construction	Operation and Maintenance	
Aloha-Rigolette Area, Grant and Rapides Parishes, LA ¹	1956	\$ 1,896,826	\$ --	Apr. 1955
Bayou Bodcau and Tributaries AR and LA	1995	1,037,952	1,600,919	--
Bayou Bodcau, Red Chute, and Loggy Bayou, LA ¹	1948	319,200	353,298	Jan. 1948
Bayou Bodcau Reservoir, LA	1985	--	7,282,329	Apr. 1961
Bayou Pierre, LA	1985	--	406,121	FY 1939
Bayou Pierre in vicinity of Shreveport, LA ^{1,2}	1951	243,336 ²	--	Jun. 1939
Big Black River, MS ³	1956	910,185	670,750	³
Big Choctaw Bayou, LA ^{3,4}	1966	248,823	--	³
Black Bayou Reservoir, LA ^{1,5,6}	1945	--	--	--
Blakely Mt. Dam - Lake Ouachita, Ouachita River, AR	1985	34,023,108	118,814,487	Oct. 1955
Caddo Lake Dam, LA	1986	--	2,523,177	--
Campti-Clarence Area in Natchitoches Parish, LA	1978	1,655,700	--	Jul. 1978
Canal 43, AR	1997	898,061	--	Aug. 1990
Chauvin Bayou, LA	1995	4,245,863	--	--
Colfax, Grant Parish, LA ^{1,7}	1938	70,348	--	--
DeGray Lake Caddo River, AR	1985	72,033,992	86,301,685	Dec. 1971
East Point, LA	1969	286,069	3,051,536	Aug. 1968
Garland City, AR	1976	1,335,841	--	Jul. 1974
Grant Parish below Colfax, LA ^{1,3}	1941	38,809	--	³
Hempstead County Levee District No. 1, AR ^{1,3}	1941	88,006	--	³
Homochitto River, MS ³	1956	205,000	144,650	³
Maniece Bayou, AR ^{1,2}	1970	970,932 ²	--	Aug. 1969
Monroe Floodwall, LA	1984	2,560,000	--	--
Murfreesboro Dam and Lake ⁴	1951	--	--	--
Narrows Dam-Lake Greeson, Little Missouri River, AR	1985	16,516,689	85,120,503	May 1950
Natchez Port Area, MS ^{3,4}	1969	538,000	--	⁵

TABLE 12-H
(Continued)

**OTHER AUTHORIZED FLOOD
CONTROL PROJECTS**

Project	For Last Full Report See Annual Report For:	Cost to Sep. 2003		Mo. and Yr. Completed
		Construction	Operation and Maintenance	
Natchitoches Parish, LA ^{1,2}	1956	1,529,478	--	Aug. 1955
Pearl River, Jackson-East Jackson, MS	1986	2,790,127	--	1987
Pineville, Red River, LA ^{3,4}	1953	232,426	--	Dec. 1951
Lead Bayou, MS	1991	1,961,089	--	Nov. 1988
Porter Bayou	1995	1,049,278	--	Sep. 1993
Posten Bayou, AR ⁸	1973	--	--	--
Poverty Point, LA	1986	250,000	--	Oct. 1985
Red River Parish, LA ^{1,3}	1939	149,435	--	³
Red River in vicinity of Shreveport, LA ¹	1953	3,908,000	--	Mar. 1953
Red River Waterway, Shreveport, LA to Index, LA ⁹	1994	855,497	--	--
Saline Point, LA ^{1,3}	1945	124,111	--	--
Twelvemile Bayou, LA ⁴	1966	335,433	--	May 1965
Wallace Lake, LA	1985	--	2,715,205	Dec. 1946

1. Authorized under project "Red River Below Denison Dam."

2. In addition, the following was expended from contributed funds:

Amite River and tributaries.....	\$ 430
Bayou Pierre in vicinity of Shreveport, LA	89,047
Choctaw Bayou and Tributaries, LA	170,799
Harvey Canal, Bayou Barataria Levee, LA.....	425,209
Maniece Bayou, AR.....	39,293
Natchitoches Parish, LA	250,000

3. Completion Date Unavailable.

4. Authorized by Chief of Engineers under authority of Sec. 205, Flood Control Act of 1948, as amended.

5. Construction not initiated.

6. Inactive.

7. Completed under provisions of Sec. 7 Flood Control Act of 1928, as amended by Sec. 9, Flood Control Act 1936, and included in 1939 Annual Report of President, Mississippi River Commission, p. 2214.

8. Posten Bayou Project, authorized by Senate and House Resolutions, Dec. 17 and 15, 1970, deleted the plan authorized by the Flood Control Act dated Aug. 3, 1955.

9. Excludes New Orleans District allocation and cost.

TABLE 12-I **DEAUTHORIZED PROJECTS**

Project	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Extended	Contrib Funds Exp
Bayou Bartholomew and Tributaries, AR and LA	1990	May 17, 1950 S. Doc. 117, 81st Cong., 1st sess.	974,000	--
Buffalo River, MS ¹	1940	Nov 1986	--	--
McKinney Bayou, Finn Bayou Segment, AR	1963 ²	Aug 1977	--	--

1. Deauthorized by Sec. 1002, Water Resources Development Act of 1986.

2. Date Authorized.

**TABLE 12-J ACTIVE GENERAL INVESTIGATIONS
(96X3121)**

Item and CWIS Number	FY 03 COSTS		
	Federal	Non-Federal	Total
SURVEYS (Category 100)			
<u>Navigation Studies (110)</u>			
Red River Navigation Study, S.W. Ark. - 010436	397,042	500,403	897,445
Subtotal	397,042	500,403	897,445
<u>Flood Damage Prevention (120)</u>			
Jackson Metro - 012742	40,015		40,015
Subtotal	40,015		40,015
<u>Reconnaissance (121)</u>			
Ouachita and Black Rivers, LA & AR – 013743	24,983		24,983
Hot Springs Creek Study, AR – 081494	12,818		12,818
Subtotal	37,801		37,801
<u>Miscellaneous Activities (170)</u>			
Interagency Water Resources (173) -14713	17,007		17,007
Special Investigations (171) -17250	13,996		13,996
North American Water - 053904	2,095		2,095
Subtotal	33,098		33,098
COORDINATION WITH OTHER AGENCIES AND NON FEDERAL INTERAGENCIES (180)			
COOP With Other Water Agencies – 053907	1,991		1,991
PAS – Negotiation Funds - 014800	2,004		2,004
PAS – LA-Areawide Optimization – 22066	18,067	67,405	85,472
PAS – Cross lake Storage Capacity – 22078	57,748	14,437	77,185
PAS – Pearl River County FP GIS, Ph. II – 28015	65,926	56,669	122,595
PAS – Port Bienville, Hancock County, MS – 28013	51,996	58,696	110,692
Subtotal	197,732	202,207	399,939
TOTAL (Category 100)	705,688	702,610	1,408,298
COLLECTION AND STUDY OF BASIC DATA (Category 200)			
<u>Flood Plain Management Services (250)</u>			
Flood Plain Management Services – 82030	22,009		22,009
Quick Response - 82045	5,995		5,995
Special Studies – Scott County, MS Flood Hazard Evaluation – 83305	38,003		38,003
Technical Services – 82040	49,935		49,935
Subtotal	115,942		115,942
<u>Hydrologic Studies (260)</u>			
Hydrologic Studies (260) -53820	4,848		4,848
Subtotal	4,848		4,848
TOTAL (Category 200)	120,790		120,790
GRAND TOTAL GENERAL INVESTIGATIONS	\$826,478	\$702,610	\$1,529,088

MEMPHIS, TN, DISTRICT

This district comprises a portion of southeastern Missouri and southern Illinois, western portions of Kentucky and Tennessee, a small portion of northern Mississippi, and the northeastern portion of Arkansas; includes area embraced in drainage basins of eastern tributaries of the Mississippi River south of Ohio River Basin to Nonconnah and Horn Lake Creeks, inclusive, and those of western tributaries south of Little River

diversion channel and Commerce, MO, including St. Francis River Basin and White River and tributaries below Peach Orchard Bluff, AR, on the right bank and below Augusta, AR, on the left bank; also includes left bank Mississippi River levee from vicinity of Memphis south to about mile 620, and right bank levees from Cape Girardeau, MO, to about mile 605.

IMPROVEMENTS

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Flood Control

1. MAIN DITCH NO. 8, PEMISCOT COUNTY, MO

Location. This project is located in Pemiscot County in the vicinity of Hayti, Missouri, about 50 miles southeast of Poplar Bluff, Missouri.

Existing project. The purpose of the project is control of channel flooding on agricultural lands, while minimizing damage to the environment. The project consists of approximately 15.4 miles of selective clean-out of vegetation and excessive sediment deposits from the bottom of the channel and selective clearing of trees, brush, and other types of blockages from upstream of Elk Chute Ditch to approximately 1.0 mile above the intersection with State Highway P, where Lateral No. 27 flows into Main Ditch No. 8. A detailed

project report was approved in December 1995 for preparation of plans and specifications. A project cooperation agreement was signed on 12 September 1997. The sponsor completed acquisition of right-of-way on 22 January 2001. A construction contract was awarded on 29 June 2001 for \$1,078,795 and completed October 2002.

Local cooperation. Pemiscot County is the local sponsor for the project.

Operations during fiscal year. The construction on the project is 98% complete as of Sep 30, 2002.

2. MUD CREEK, DRESDEN, TN

Location. Mud Creek is located in Weakly County Tennessee, about 50 miles north of Jackson, Tennessee.

Existing project. The city has a multiple cell sewage lagoon system located along Mud Creek on the eastern limits of the city. Mud Creek is a naturally meandering stream and this stream bank erosion is threatening the stability of the containment dikes for the lagoons. A detailed project report was approved in February 2002, and a project cooperation agreement was signed on 19 June 2002. The project was approved for construction and all construction was completed by September 30, 2002. The construction Costs for the project is \$160,000 and of that \$56,000 is non-Federal.

Local Cooperation. The City of Dresden Tennessee is the local sponsor for the project.

Operations during fiscal year. The project was substantially completed in Sep 2002. Project closeout and final accounting is in process in FY 03.

3. STEELMAN ROAD, TN

Location. Steelwater Road is located in Lauderdale County, Tennessee, in the community of Dowole Bridges, TN.

Existing Project. This project is a continuing Authorities Project Section 14 that will stabilize 600 feet of the east bank of Mill Creek to protect Steelman Road.

Local Cooperation. Lauderdale County, Tennessee, is the non-Federal sponsor.

4. TUNICA WEIR, TUNICA, MS, AR

Location. Tunica Weir is located on the outlet for Tunica Lake approximately 30 miles southwest of Memphis, TN. on the Mississippi River.

Existing project. This project is the environmental restoration of the 1500-acre Tunica Cutoff Lake formed on a previous cutoff project of the Mississippi River and was approved for construction under the authority of Section 1135 (b) of WRDA 1986 as amended. The weir will stabilize water levels in the lake that had been steadily declining. A construction contract was awarded on Nov 15, 2001 in the amount of \$993,201. Construction is substantially complete.

Operations during fiscal year. The construction is substantially complete and project closeout and final accounting in progress in FY 03.

5. TURKEY CREEK, MEDINA, TN

Location. Turkey Creek is located in Gibson County about 7 miles north of Jackson, TN in Medina, TN

Existing project. This project is streambank protection for the sewage lagoon at Medina, TN and was approved for construction under the authority of Section 14 of the flood control act of 1946. A PCA was signed on Sep 27, 2002. Construction was substantially complete in FY 03.

Operations during fiscal year. Construction was substantially complete in FY 03.

General Investigations

6. DESOTO COUNTY REGIONAL WASTE-WATER SYSTEM, DESOTO COUNTY, MS

Location. DeSoto County is located in north Mississippi, just south of Memphis, TN. The county's rapid growth demands expansion of existing sewer systems and the development of new systems into one unified county-wide system.

Existing project. Section 219 of WRDA 1992, as amended in Section 502 of WRDA 1999 and Section 108 of the Consolidated Appropriations Act, 2001 authorized \$20,000,000 for the design and construction of a regional wastewater system in DeSoto County, Mississippi.

Local cooperation. DeSoto County is the local sponsor for the project. A PCA Amendment to include current Corps of Engineers authorized participation was executed on 19 August 2003. The local sponsor's A-E firm is conducting design activities and preparing plans and specifications for contracting and construction in coordination with the Memphis District.

Operations during fiscal year. Memphis District has awarded contracts on the Short Fork Creek Wastewater Treatment Plant and Byhalia Road Pump Station. Contracts for the Camp Creek Canal Interceptor will be awarded in early 2004. Completion of the currently authorized project is scheduled to be completed in FY 2005.

7. WHITE RIVER TO NEWPORT, AR

Pre-Construction Engineering and Design

Location. The project is located in Arkansas on the White River, starting at Newport, AR (mile 254) to the Arkansas Post Canal (mile 10)

Existing project. Project was authorized by WRDA of 1986, subsequently deauthorized by WRDA of 1988, and reauthorized by WRDA of 1996. The existing authority is for 4.5 ft deep by 100 ft wide from Augusta (River Mile 198) to Newport (Mile 254); and 8 ft deep by 125 ft wide from the Arkansas Post Canal (Mile 10) to river mile 198 at stages equivalent to or exceeding 12 ft on the Clarendon gage, with a 5 ft minimum depth at lower stages.

Operations during fiscal year. Funds are being used to continue the general reevaluation of the authorized White River to Newport, AR project. During this period \$86,100 was expended

8. COORDINATION WITH OTHER AGENCIES

During this period \$118,221 was expended.

9. COLLECTION AND STUDY OF BASIC DATA

During this period \$71,171 was expended.

Environmental

10. REELFOOT LAKE, TENNESSEE AND KENTUCKY

Location. The project is located in northwest Tennessee in Lake and Obion counties and southwest Kentucky in Fulton County.

Existing project. The project includes a new spillway, with an inlet and outlet channel; relocation of a highway bridge; circulation channels in the lake; a sediment retention basin and restoration of Shelby Lake; waterfowl management units. The project was authorized for construction in Section 101(b) of the Water Resource Development Act of 1999. The Estimated Federal Cost for construction for the project is \$18,900,000 and the Estimated Non-Federal Cost for construction for the project is \$12,000,000.

Local cooperation. The Tennessee Wildlife Resources Agency (TWRA) has agreed to act as non-Federal sponsor. The PED phase was initiated in FY

2000 subsequent to executing a PED agreement with TWRA.

Operations during fiscal year. No FY 2003 funds were received. Awaiting Congressional funding to start construction on spillway.

11. WOLF RIVER, MEMPHIS, TN

Location. The project is located in Shelby and Fayette Counties, Tennessee. The Wolf River basin covers approximately 819 square miles in southwest Tennessee and north Mississippi. The Wolf River flows northwestward approximately 86 miles to its confluence with the Mississippi River at Memphis, Tennessee, meandering through bottomland hardwood forests in its upper reaches and a man-altered channel in its lower reaches.

Existing project. A severe headcut is threatening a bridge and destroying fish and wildlife habitat and development is encroaching on wetlands, bottomland hardwoods and other fish and wildlife habitat in the Wolf River and its floodplain. The project will include six main channel stabilization weirs with two cutoff prevention weirs; eighteen tributary weirs; wildlife corridors and trails in Shelby County; and three boat ramps, two in Shelby County and one in Fayette County. The project was authorized for construction in Section 101, Water Resources Development Act of 2000. The Estimated Federal Cost for construction for the project is \$6,350,000 and the Estimated Non-Federal Cost for construction for the project is \$3,555,000.

Local cooperation. The Chickasaw Basin Authority and Shelby County, Tennessee are the non-Federal sponsors for this project and signed a PED cost sharing agreement in July 2001. Costs sharing of features in Fayette County are contingent upon receipt of funds from Fayette County and/or the state of Tennessee. The PED phase was completed in February 2003. The project cooperation agreement is scheduled for execution in January 2004.

Operations during fiscal year. The \$1,000,000 added to the FY 2004 budget will be used to initiate construction on the first item of work, which includes construction of three (3) of the six main channel weirs, two cutoff prevention weirs, and associated access roads.

Other Activities**12. INSPECTION OF COMPLETED WORKS**

Completed projects were inspected at a cost of \$186,851 during this period. Total cost as of Sep. 30, 2003, was \$3,875,929. This included in-depth inspection of projects.

13. WORKS UNDER SPECIAL AUTHORITIES**Navigation activities pursuant to Sec. 107, Public Law 87-645, as amended.**

During this period, \$1,028 Federal and \$4,466 non-Federal was expended on Blytheville Harbor, AR; \$234 Federal and \$1,304 non-Federal on Northwest Tennessee Regional Harbor, TN.

Flood control activities pursuant to Sec. 205, Public Law 858, 80th Cong., as amended (preauthorization).

During this period \$14,928 was expended on Section 205 Coordination Account; \$34,938 was expended on Anderson Creek, TN; \$10,230 was expended on Bayou De Chein, KY; \$6,001 was expended on Baxter Bottom, TN; \$96 was expended for Bono, AR; \$778 was expended on Covington, TN; \$755 was expended on Crockett Creek, TN; \$38,057 was expended on Dresden, TN; \$890 was expended on Dyer County Levee, TN; \$25,473 was expended on Higginson, AR; \$201,554 was expended on Indian Bayou Ditch, AR; \$18,801 was expended on Lilbourn, MO; \$8,184 was expended on Little River Diversion, MO; \$12,278 was expended on Main Ditch 8, MO; \$832 was expended on Oliver Creek, TN; \$172 was expended on Rossville, TN; \$35,950 was expended on Sandy Creek, TN; \$36,810 was expended on Truman, AR.

Emergency bank stabilization activities pursuant to Sec. 14, Public Law 526, 79th Cong., as amended.

During this period, \$14,978 was expended on Section 14 Coordination Account; \$33,185 was expended on Colt, AR; \$101,224 was expended on Dresden Sewage Lagoon, TN; \$3,253 was expended on Heathcott Road, TN; \$26,732 was expended on Hollywood Interceptor, TN; \$72,413 was expended on Mt. Moriah Culvert, TN; \$3,040 was expended on Poplar Estates Park, TN; \$57,637 was expended on Steelman Road, TN; \$104,478 was expended on Turkey Creek, TN.

Snagging and clearing of navigable streams and tributaries in the interest of flood control (Sec. 208**of 1954 Flood Control Act, Public Law 780, 83rd Congress).**

During this period, \$14,991 was expended on Section 208 Coordination Account. During this period \$463 was expended on Ditch 2 Craighead County, AR; \$136 was expended on Lateral No 3 MO.

Project Modifications for improvement of environment pursuant to Sec. 1135, Public Law 99-662, as amended (preauthorization).

During this period \$14,940 was expended on Section 1135 Coordination Account; \$40,169 was expended on Ditch 28 Structure & Levee, AR; \$160,675 was expended on Duck Creek, MO; \$200,318 was expended on Horseshoe Lake, AR; \$23,671 was expended on Lower Obion River, TN; \$4,952 was expended on Mellwood Lake, AR/MS; \$210,143 was expended on Tunica County Weir, AR/MS.

Aquatic Ecosystem Restoration, Public Law 104-303, Sec. 206

During this period, \$15,411 was expended on Aquatic Ecosystem Restoration Coordination Account Funds. \$10,000 was expended on Brownsville Branch, AR.

14. ENVIRONMENTAL IMPROVEMENT PROJECTS**Environmental Infrastructure**

During this period, Federal cost was \$4,477,429 for DeSoto County Wastewater Treatment, MS

15. EMERGENCY RESPONSE ACTIVITIES**Emergency flood control activities, Public Law 99, 84th Cong.**

During this period, Federal cost was \$237,755 for disaster preparedness.

Catastrophic Disaster Preparedness Program

Local Preparedness	
National Preparedness	77,382
National Emergency Facilities	2,722
Readiness Training & Exercise	
Task Force	
Total	<u>\$80,104</u>

16. GENERAL REGULATORY PROGRAM

Permit Evaluations	\$ 29,859	
Enforcement	0	
Appeals	<u>0</u>	
Total	\$29,859	.

TABLE 13-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Funds to Sep. 30, 2003
1.	Main Ditch No. 8 Pemiscot County, MO	New Work					
		Approp.	0	505,500	453,200	13,000	1,200,800
		Cost	277	474,886	490,355	12,300	1,201,594
2.	Mud Creek, Desden, TN.	New Work					
		Approp.		35,000	99,000	0	134,000
		Cost		32,279	101,224	0	133,502
3.	Steelman Road, TN	New Work					
		Approp.		28,000	9,000	57,500	94,500
		Cost		23,884	12,977	57,637	94,498
3.	Tunica Cutoff Weir, Tunica, MS / AR	New Work					
		Approp.	25,000	115,000	715,000	210,000	1,215,000
		Cost	23,529	112,965	717,924	210,143	1,214,479
4.	Turkey Creek, Medina, TN	New Work					
		Approp.			31,670	105,100	136,770
		Cost			31,484	104,478	135,962
5.	Desoto County Regional Wastewater System, Desoto County, MS	New Work					
		Approp.	--	144,000	651,000	4,261,000	5,056,000
		Cost	--	--	431,122	4,477,429	4,908,551
6.	White River to Newport, AR	New Work					
		Approp.	421,000	417,000	169,000	68,000	2,413,000
		Cost	394,595	403,587	403,587	86,051	2,200,414
9.	Reelfoot Lake, Tennessee and Kentucky	New Work					
		Approp.	296,000	348,231	25,000	0	671,231
		Cost	29,061	586,510	55,003	0	670,574
10.	Wolf River, Memphis, Tennessee	New Work					
		Approp.	--	94,548	166,450	5,000	265,998
		Cost	--	91,442	169,556	0	260,998

TABLE 13-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
WRDA as amended 1948, Sec 205	Main Ditch No. 8 Pemiscot County, MO The purpose of the project is control of channel flooding on agricultural lands, while minimizing damage to the environment.	Public Law 858, 80th Congress Jun. 30, 1948
Section 14 of the Flood Control Act of 1946	Mud Creek, Dresden, TN The city has a multiple cell sewage lagoon system located along Mud Creek on the eastern limits of the city. Mud Creek is a naturally meandering stream and this stream bank erosion is threatening the stability of the containment dikes for the lagoons.	Public Law 526, 79th Congress 2nd session, Jul. 24, 1946
Section 14 of the Flood Control Act of 1946	Steelman Road, Double Bridges, TN This project is streambank protection of Mill Creek to protect the road.	Public Law 526, 79th Congress 2nd session, Jul. 24, 1946
WRDA as amended 1986 Section 1135(b) of	Tunica Weir, Tunica, MS, AR. This project is the environmental restoration of the 1500-acre Tunica Cutoff Lake formed on a previous cutoff project of the Mississippi River. The weir will stabilize water levels in the lake that had been steadily declining.	Public Law 99-662, 99 th Congress 2 nd session, Jul. 14, 1960
Section 14 of the Flood Control Act of 1946	Turkey Creek, Medina, TN. This project is streambank protection for the sewage lagoon at Medina TN	Public Law 526, 79 th Congress 2 nd session, Jul. 24, 1946
Section 219 of WRDA 1992, as amended in Section 502 of WRDA 1999 and Section 108 of the Consolidated Appropriations Act, 2001	Desoto County Wastewater Treatment, MS DeSoto County is located in north Mississippi, just south of Memphis, TN. The county's rapid growth demands expansion of existing sewer systems and the development of new systems into one unified county-wide system.	Public Law 106-53, 106 th Congress Aug. 17, 1999
WRDA as amended 1999, Sec 101(b)	Reelfoot Lake, Tennessee and Kentucky A new spillway, with an inlet and outlet channel; relocation of a highway bridge; circulation channels in the lake; a sediment retention basin and restoration of Shelby Lake; waterfowl management units.	Public Law 106-53, 106 th Congress Aug. 17, 1999
WRDA as amended 2000 , Sec 101(b)	Wolf River, Memphis Tennessee A severe headcut is threatening a bridge and destroying fish and wildlife. The project will include six main channel stabilization weirs with two cutoff prevention weirs; eighteen tributary weirs; wildlife corridors and trails in Shelby County; and three boat ramps.	Public Law 106-541, 106 th Congress Dec. 11, 2000

TABLE 13-B (Cont.) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
WRDA of 1986, subsequently deauthorized by WRDA of 1988, and reauthorized by WRDA of 1996.	White River to Newport, AR. Current engineering studies indicate that a channel with a bottom width of 125 feet and a depth of nine feet is potentially economically and environmentally feasible, providing a 95 percent annual availability from Newport, AR to the Arkansas Post Canal.	Public Law 99-662, 99 th Congress Jul. 14, 1960 / Public Law 100-676, 100 th Congress Nov. 17, 1988 / Public Law 104-303, 104 th Congress Oct. 12, 1996

TABLE 13-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report For:	Cost to Sep. 30, 2003	
			Construction	Operation and Maintenance
Caruthersville Habor, MO	Annual Dredging	1984	\$768,992	\$9,745,757
Helena Harbor, AR	Annual Dredging	1984	90,847	9,121,580
Elvis Stahr Harbor, KY	Annual Dredging	1984	149,827	10,103,599
New Madrid Harbor, MO ⁶		1984	196,373	--
Obion River, TN ^{1,3}	Complete	1911	28,716	--
Osceola Harbor, AR	Annual Dredging	1984	269,115	13,280,218
Removing snags and wrecks from Mississippi River below mouth of the Missouri River and Old and Atchafalaya River ^{4,5}	Complete	1948	--	--
White River, AR (below Newport)	Annual Dredging	1984	169,994	50,910,941
Wolf River Harbor, TN	Annual Dredging	1984	586,50	16,179,160
New Madrid County Harbor, MO	Annual Dredging	2000	824,267	3,326,888

1. No commerce.
2. Existing project is for maintenance only.
3. Recommended for abandonment in H. Doc. 467, 69th Cong., 1st session.
4. Completion date not available.
5. No funds available under this project. Work being carried on under "Appropriation, Flood Control, Mississippi River and Tributaries."
6. WRDA 92 (Section 102) modified authorization by directing the Secretary to assume responsibility for maintenance of New Madrid County Harbor constructed by non-Federal interest.

TABLE 13-E **OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Project	Status	For Last Full Report See Annual Report For:	Cost to Sep. 30, 2003	
			Construction	Operation and Maintenance
Big Creek Canal, Millington, TN	--	1977	\$ 70,36	\$ --
Bradford, TN	Complete	1984	95,1	--
Cottonwood Slough pumping plant, IL ¹	Complete	1964	147,0	--
Cypress Creek, McNairy City, TN	--	1998	10,3	--
Dails Creek, Holly Grove, AR	--	1996		--
Drinkwater Sewer, MO	Complete	1984	1,494,828	--
Dyersburg, TN ¹	Complete	1962	229,649	--
Dyersburg, TN (SW)	Complete	1981	1,820,865	--
Fletcher Creek at Memphis, TN	Complete	1993	421,8	--
Grays Creek Canal Shelby Co., TN	Complete	1985	155,2	--
Hatchie River, Alcorn Co., MS	Complete	1987	85,3	--
Humboldt, TN	Complete	1989	1,141,407	--
Memphis, Wolf River, and Nonconnah Creek, TN	Complete	1960	11,141,199	--
Main Ditch #8	Complete	2002	1,971,700	--
Loosahatchie Intreceptor Sewer, Shelby	Complete	1998	394,0	--
Millington, TN	Complete	1996	830,8	--
Mounds and Mound City, Ohio River Basin, IL ³	Complete	1955	1,132,704	--
Nixon Creek, TN ¹	Complete	1952	62,3	--
Nonconnah Blvd. Nonconnah Creek, TN	Complete	1983	249,9	--
Nonconnah Creek, Interceptor Sewer, Memphis, TN	Complete	1987	259,0	--
Nonconnah Creek at Perkins Street, Memphis, TN	Complete	1993	830,7	--
N. Second St., Memphis, TN (Wolf River Bridge)	Complete	1983	249,9	--
N. Second St. at Wolf River, Memphis, TN	Complete	1991	367,0	--
Plainview Road Bridge, Chester County, TN	Complete	1991	124,9	--
Quince Road Bridge, Memphis, TN	Complete	1993	156,5	--
Raft Creek, AR	--	1997		--
Sandy Creek Jackson, TN	Complete	1985	238,0	--
St. Francis River Highway No. 90, AR	Complete	1985	161,0	--
Tar Creek, Chester County, TN	--	1997	1	--
Treasure Island, MO	Complete	1981	861,5	--
Turner Creek, Corinth, MS	Complete	1987	100,6	--
US Hwy 51, Nonconnah Creek, TN	Complete	1984	369,2	--
W. Hickman, Area, Hickman, KY	Complete	1983	1,674,180	--

1. Authorized by Chief of Engineers under small project authority, Sec. 205, Flood Control Act of 1948, as amended.

2. Includes \$21,863 contributed funds.

3. Work being completed under Mississippi River and Tributaries project.

4. Exclusive of Cache River Pumping Station.

TABLE 13-G

DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For:	Cost to Sep. 2003		
		Date Deau- thorized	Federal Funds Ex- pended	Contributed Funds Ex- pended
Big Creek and L'Anguille River, White River Basin, AR	1977	May 6, 81	\$ --	--
Clarendon to Laconia Circle White River Basin, AR	1937	May 6, 81	--	--
Huntingdon, TN	1983	Sep 80	\$2,900,281	--
Long Lake Area, Helena, AR	1983	Jul 83	61,281	--
Memphis Harbor, Memphis, TN	--	Nov 29, 95	--	--

**TABLE 13-H ACTIVE GENERAL INVESTIGATIONS
(96X3121)**

Item and CWIS Number	Federal Cost FY 03	Totals by Categories
SURVEYS (Category 100)		
<u>Miscellaneous Activities (170)</u>		
Special Investigations (171) -17250	\$22,200	
Intra Agency Water Resources Development-14713	10,700	
North American Waterfowl Mgmt (176) - 53904	<u>4,500</u>	
	\$37,400	
<u>Coordination Studies with Other Agencies (180)</u>		
Coop with Other Water Agencies (181) - 53907	\$1,700	
PAS Negotiation Funds	5,800	
PAS – MS – Tunica County (186) - 028009	0	
PAS – TN – Chickasaw Stormwater Study (186) - 047014	100	
PAS – TN – Memphis Riverfront (186) - 047015	800	
PAS – TN – Shelby County (186) - 047011	1,100	
PAS – MS – DeSoto County (186) – 28012	36,500	
PAS – MS – Buck Island Bayou (186) – 28016	13,700	
PAS – TN – Dyersburg (186) – 47016	17,100	
PAS – AR – East Arkansas Enterprise Community (186) – 00512	50,000	
TOTAL (Category 100)		\$126,800
COLLECTIONS AND STUDY OF BASIC DATA (Category 200)		
<u>Flood Plain Management Services (250)</u>		
Flood Plain Mgmt Services - 082030	\$10,900	
Technical Services - 082040	29,000	
Quick Responses - 082045	2,600	
Jonesboro, AR - 083180	0	
Kennett, MO – 083181	4,600	
Dexter, MO – 083441	11,200	
TOTAL (Category 200)		<u>\$58,300</u>
<u>Preconstruction Engineering and Design (Category 600)</u>		
White River to Newport, AR (621) - 060740	<u>\$86,000</u>	
TOTAL (Category 600)		<u>\$86,000</u>
GRAND TOTAL GENERAL INVESTIGATIONS		<u>\$308,500</u>

ST. LOUIS, MO, DISTRICT

This district comprises those portions of southwestern Illinois and eastern Missouri which lie in the drainage basin of Mississippi River and its western tributaries, exclusive of the Missouri River, from the mouth of the Ohio River to mile 300, and of its eastern tributaries to Hamburg Bay at mile 261 on the left bank, exclusive of tributary basin of Illinois Waterway upstream of new La Grange Lock and Dam at mile 80.15 above confluence of the Illinois and Mississippi Rivers. The St. Louis District territory encompasses 27,000 square

miles. The District also includes a drainage basin in Missouri tributary to the Little River diversion channel. The Mississippi River between the Missouri River and mile 300 is included in a separate report on the Mississippi River between the Missouri River and Minneapolis, MN. The portion of the Illinois River downstream of new La Grange Lock and Dam is included in the report of the Chicago District on the Illinois Waterway, Illinois and Indiana.

IMPROVEMENTS

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Navigation

1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

2. KASKASKIA RIVER, IL

Location. The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,00.)

Previous project. For details, see Annual Report for 1986.

Existing project. Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions.

Local cooperation. State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

Operations and result during fiscal year. Hired labor performed operation (\$2,011,637) and maintenance (\$478,677) of the project.

3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

4. ST. LOUIS HARBOR, MO AND IL

Location. The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

Existing project. The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (2000) is \$15,524,000 Federal and \$30,624,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

Local cooperation. The District coordinated with the two local sponsors and found that (1) the city of St. Louis is unable to continue as a sponsor for the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider a project location just below the mouth of the Chain of Rocks Canal adjacent to the former Charles Melvin Price Support Center that the sponsor recently acquired. The proposed reconfigured harbor facility is considerably smaller than the authorized 6,900-foot facility.

Operations and results during the fiscal year. The District submitted a plan formulation package for Division and Headquarters review in April 2002. Policy review in FY 2003 resulted in a recommendation against constructing the project. A draft negative report will be prepared in FY 2004.

5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity in FY 03.

Flood Control**6. ALTON TO GALE ORGANIZED
LEVEE DISTRICTS, IL & MO**

Location. The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

Existing Project. The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1997) is \$109,018,000 Federal and \$4,374,000 non-Federal. Resumption of project initiated. New slides were discovered during the 1997 spring levee inspections. The contract to repair the Blue Waters Levee in the Metro East Drainage and Levee District was completed Oct. 1997.

Local cooperation. The cost sharing applicable for the Alton to Gale Levee Slide repairs is in accordance with policies established for the Water Resources Development Act of 1986, PL 99-662. The local sponsor is required to operate and maintain all works after completion. Supplemental assurances have been completed for a portion of the remedial work that was 100% federally funded. In Nov. 2000, ASACW granted an exception to the policy requiring non-Federal cost sharing for deficiency corrections. As a result, 44 levee slides were repaired at 100 percent Federal cost.

Operations and results during fiscal year. A draft letter report, which addresses future deficiency corrections, has been developed. Resolution of comments on the letter report is ongoing.

7. CAPE GIRARDEAU-JACKSON, MO

Location. Missouri, along the right bank of the Mississippi River between River Miles 50 and 55 above the Ohio River.

Existing Project. The project includes a 157 acre dry detention reservoir; approximately one mile of channel improvements on Cape La Croix Creek and two miles of channel improvements on Walker Branch, eight bridge replacements; recreational/environmental features and non structural features which are not going to be implemented at this time. The project is autho-

rized by the Water Resources Development Act of 1986 (PL 99-662). The estimated Federal project cost is \$36,806,000. Non-Federal cost is \$13,787,000.

Local Cooperation. The city of Cape Girardeau, MO, local sponsor, is strongly supportive of the project. The Local Cooperation Agreement (LCA) was executed on May 25, 1990 with a modification to the LCA executed on Oct. 27, 1992. Requirements of local cooperation are fully described in the FY 1991 Annual Report.

Operations and results during fiscal year. Construction of the detention reservoir was 99% complete in FY 2003.

8. CHESTERFIELD, MO

Location. The Chesterfield, Missouri, project includes the Monarch-Chesterfield Levee, which is located in St. Louis County along the right bank of the Missouri River between river miles 46 and 38.5.

Existing project. The project was authorized by the Water Resources and Development Act of 2000 (PL 106-541). The project includes a 5-7 foot levee raise, approximately 12 miles long; seepage berms; relief wells; closure structures; pump stations; and several gravity drains.

Local cooperation. The Monarch-Chesterfield Levee District signed a Design Agreement in August 2001.

Operations and results during fiscal year. Continued preconstruction engineering and design.

9. EAST ST. LOUIS AND VICINITY , IL

Location. Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottom lands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

Existing project. The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure

structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Post authorization studies in the early 1980's justified a project that was constructed for the Blue Waters Ditch area, which included channel improvements and a pumping station with a final project cost of \$11,530,000 and \$2,950,000 non-Federal. However, flood plain detention areas, the reservoir on Little Canteen Creek and other related flood control measures in the Cahokia-Harding Ditch Area are not economically feasible.

Severe flooding, which has resulted in National Disaster Declarations each year from 1993 to 1996, resulted in a new Congressional appropriation in FY 1997 to restart a cost-shared general reevaluation of the interior area. Congress added funds each year since FY 1997 to continue this effort. The project has been reformulated as an ecosystem restoration project that provides incidental flood damage reduction. Preparation of the general reevaluation report continued in FY 03. Project costs are estimated to be \$210 million. The 1988 Energy and Water Development Appropriations Act authorized repair and rehabilitation of pump stations and appurtenant works, channels and bridge structures. The estimated total cost of this work (2002) is \$38,946,000 Federal and \$16,465,000 Non-Federal.

Local cooperation. For work under the Energy and Water Development Appropriations Act of 1988, PL 100-202, local interests have entered into three Local Cooperation Agreements (LCA) which cover all of the work in the Flood Protection Rehabilitation project. Construction work under the first two LCAs complete, and construction work under the third LCA is underway. In May 1998, a PED agreement was executed by the local interests to cover costs associated with the reevaluation of the Cahokia-Harding Ditch area.

Operations and results during fiscal year. Construction was completed on Canteen Creek Phase II and North and East pump station repairs.

10. MERAMEC RIVER BASIN (VALLEY PARK), MISSOURI

Location. The project is located in St. Louis County, Missouri, adjacent to the left bank of the Meramec River between miles 20.7 and 22.1 above the confluence with the Mississippi River.

Existing project. The project was authorized for construction by Section 2(h), Public Law 97-128, Dec. 29, 1981, and the Water Resources Development Acts of 1986 and 1999. It protects Valley Park from the 100-year flood on the Meramec River. The project includes 3.2 miles of earthen levee with six gravity drains, three closure structures, interior ponding areas and 41 relief wells required for under-seepage control. Estimated total project cost (2002) \$44,489,000; \$33,256,000 Federal, and \$11,233,000 non-Federal.

Local cooperation. The city of Valley Park, Missouri is the local sponsor. A Local Cooperation Agreement was executed on August 12, 1992.

Operations and results during fiscal year. The project is about 60 percent complete, including about 1.6 miles of levee and 3 closure structures. The tree clearing contract was completed, and the construction contract was awarded in Sep 03 for the remaining 1.6 miles of levee (which includes two "engineered fills" for material from the ruins from an abandoned glass plant).

11. NUTWOOD DRAINAGE AND LEVEE DISTRICT, IL

Location. The levee district is in Green and Jersey Counties, IL, on the left bank of the Illinois River between miles 15.2 and 23.7 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing Project. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.). Project provides for raising and enlarging 11.4 miles of levee, construction of 1.0 miles of new levee, altering a pumping station and construction of seepage control measures. This project would provide protection to 10,360 acres of land, 9,365 of which are highly productive agricultural lands. A General Design Memorandum (GDM), completed in 1986, indicated that the plan was not economically justified at the

interest rate used at the time. The project was declared inactive on Jun. 3, 1987. As a result of the Great Flood of 1993 and the inundation of Illinois State Highway 16/100 within the project area, the 1995 Energy and Water Development Appropriations Bill included funding to perform a flood damage reduction study.

Local Cooperation. Requirements of local cooperation are described on page 14-11 of FY 1980 Annual Report except that cost sharing policies established by the Water Resources Development Act of 1986, PL-99-662, will also apply. The Nutwood Drainage and Levee District is the local sponsor. The cost sharing agreement for preconstruction engineering and design (PED) was executed in July 1997.

Operations and results during fiscal year. Construction funding was received in FY 2002. Work efforts to acquire necessary permits and prepare plans and specifications continued. The present total Federal project cost (2002) is \$12,575,000; non-Federal cost is \$4,192,000.

12. RIVER DES PERES, MO

Location. River des Peres drains a 111-square mile area in the city of St. Louis and St. Louis County, Missouri, and empties into the Mississippi River.

Existing project. The project was authorized by the Water Resources and Development Act of 1990 (PL 101-640). The authorized project consists of two subprojects, Deer Creek and University City. The Deer Creek portion consists of 2.5 miles of channel widening and stabilization improvements through the cities of Rock Hill, Webster Groves, Brentwood, and Maplewood. The University City portion consists of channel enlargement and stabilization along about 2.5 miles of the University City branch of upper River des Peres, a 2.53-mile recreation trail, and a small recreation park to be constructed by non-Federal interests on non-project lands.

Local cooperation. The Metropolitan St. Louis Sewer District (MSD) and the mayors of Brentwood, Rock Hill, Webster Groves, and Maplewood signed a Design Agreement on 17 May 2001 to serve as the local sponsors for the Deer Creek portion of the project. MSD and the city of University City signed a Letter of Intent in February 2001. The Deer Creek portion is currently deferred as the cities of Rock Hill and Brentwood withdrew their support in FY 03.

Operation and results during fiscal year. The remaining sponsors have asked the Corps to revise the

reevaluation study to analyze floodproofing as a flood damage reduction measure.

13. ST. LOUIS FLOOD PROTECTION, MO

Location. The St. Louis Flood Protection project is located in St. Louis, Missouri, on the right bank of the Mississippi River between miles 176.3 and 187.2 above the mouth of the Ohio River.

Existing project. The project was authorized by Public law 84-256, 9 August 1955, and was completed in 1974. The reevaluation of the project consists of analyzing possible structural deficiencies and geotechnical concerns and the enhancement of recreation features within the project area.

Local cooperation. The city of St. Louis signed the Design Agreement on 2 February 2000.

Operations and results during fiscal year. Continued the reconstruction evaluation.

14. STE. GENEVIEVE, MO

Location. The City of Ste. Genevieve is located in Ste. Genevieve County at the edge of the Mississippi River floodplain about 54 miles south of St. Louis, MO.

Existing project. The project was authorized by the Water Resources Development Act of 1986 (PL 99-662). The authorizing language states "Congress finds that, in view of the historic preservation benefits resulting from the project, the overall benefits of the project exceed the costs of the project." The overall project consists of four parts. Part 1 is a major levee and associated features that will protect the town from the Urban Design Flood on the Mississippi River. Parts 2 and 3 are channel improvements on tributary streams that flow through the town, North and South Gabouri Creek, respectively. Part 4 is recreation features on flood control lands. Estimated total project cost (2002) is \$49,063,000; \$35,449,000 Federal, and \$13,614,000 is non-Federal.

Local cooperation. The project sponsor is the Ste. Genevieve Joint Levee Commission. The City of Ste. Genevieve, Ste. Genevieve County Levee District Number 2, and Ste. Genevieve County Levee District Number 3 hold membership on the Commission.

Operations and results during fiscal year. The Corps of Engineers and the project sponsor have essentially completed Part 1 and are reformulating the plans for Parts 2, 3, and 4.

15. WOOD RIVER DRAINAGE AND LEVEE DISTRICT, IL

Location. The Wood River Drainage and Levee District project is located in the Mississippi River floodplain of Madison County, Illinois, just upstream of the city of St. Louis.

Existing project. The project was authorized by the Flood Control Act of 1938 and modified by the Flood Control Act of 1965. The original project provided for local flood protection works. The modified project provides for a pumping station with collector ditches and necessary appurtenant facilities for removal of water impounded by the existing levees. The pump station was never built.

Local cooperation. The Wood River Drainage and Levee District signed a Design Agreement in May 2000.

Operations and results during fiscal year. Continued plans and specifications.

16. WOOD RIVER LEVEE, IL

Location. The Wood River Levee project is located in the Mississippi River floodplain of Madison County, Illinois, just upstream of the city of St. Louis.

Existing project. The project was authorized by the Flood Control Act of 1938 and constructed in the 1950s. The existing project provides urban level protection for the 500-year Mississippi River flood stage. A reconstruction evaluation is underway to address the aging infrastructure and determine Federal interest. The recommended project includes the rehabilitation of the levee system to bring it into original performance compliance.

Local cooperation. The Wood River Drainage and Levee District signed a Design Agreement on 6 April 2000.

Operations and result during fiscal year. Continued the reconstruction evaluation.

17. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Inspection of completed work was accomplished at a cost of \$403,713 for the Fiscal Year 2003. Total cost as of end of fiscal year is \$12,712,442.

18. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to Sec. 205, Public Law 858, 80th Cong., as amended (preauthorization).

See Table 14-F.

Emergency bank stabilization activities pursuant to Sec. 14, Public Law 526, 79th Cong., as amended.

See Table 14-F.

Emergency flood control activities - repair flood fighting, and rescue work (Public Law 99, 84th Cong., and antecedent legislation).

Federal costs for the fiscal year were \$343,741 for Disaster Preparedness, \$9,199 for Emergency Operations, and \$717,339 for Rehabilitation.

Miscellaneous

19. ECOSYSTEM RESTORATION WORK UNDER SPECIAL AUTHORIZATION

Project Modifications for improvement of environment pursuant to Sec. 1135, Public Law 99-662, as amended (preauthorization).

Aquatic Ecosystem Restoration Public Law 104-303, Sec. 206.

Multiple-Purpose Project Including Power

20. GENERAL REGULATORY FUNCTIONS

Permit Evaluations	\$1,353,130
Enforcement	108,713
Studies	1,830
Environmental Inspection Statement	8,807
Appeals	0
Total Regulatory	\$1,472,480

21. CATASTROPHIC DISASTER PREPAREDNESS PROGRAM

Local Preparedness	\$ 477
National Preparedness	41,365
National Emergency Facilities	0
Readiness Training	0
Total	\$41,842

22. OTHER PROGRAMS AND ACTIVITIES

In FY 03, \$1,474,092 was expended on Native American Grave Protection for operation and maintenance.

23. UPPER MISSISSIPPI RIVER ENVIRONMENTAL MANAGEMENT PROGRAM

Location. The portion of the Upper Mississippi River within the boundaries of the St. Louis District extends from the mouth of the Ohio River (river mile 0) to river mile 300, downstream of Lock and Dam 22.

Existing project. The project is composed of five elements: Habitat Rehabilitation and Enhancement Projects, Long-term Resource Monitoring, Recreation Projects, Studies of Recreation Impacts and Navigation Traffic Monitoring. (The St. Louis District's involvement has been limited to Habitat Rehabilitation and Enhancement Projects and Long Term Resource Monitoring.) The overall program, involving five states and three engineer districts, is administered by the Mississippi Valley Division. In the St. Louis District, five habitat rehabilitation projects have been completed. These are Clarksville Management Area, Dresser Island, Pharris Island, and Stag Island in Missouri and Stump Lake in Illinois. Through FY 2003, funds allocated to the St. Louis District have amounted to \$39,051,000 for design and construction of Habitat Rehabilitation and Enhancement Projects (HREP), \$1,850,400 for Long Term Resource Monitoring (LTRM), \$2,409,300 for Program Management; and \$968,900 for Habitat Needs Assessment.

During FY 03, expenditures of \$1,932,379 included the following:

Local cooperation. The terms of local cooperation, as established by Public Law 99-662, will vary according to the nature of the project, land ownership and pre-existing management responsibilities. The local sponsor for Habitat Rehabilitation and Enhancement projects is usually the U.S. Fish and Wildlife Service in coordination with the state of Missouri or the state of Illinois. A PCA agreement with the state of Missouri was completed in FY 97 for the Cuivre Island project.

Operations and results during the fiscal year.

During FY 2003, construction was completed on Batchtown (Phase II) and initiated on Calhoun Point. Design continued on the final phase of Batchtown (Phase III). Habitat and biological response monitoring activities continued on numerous projects in Missouri and Illinois.

24. FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

On October 13, 1997, Congress transferred the management of the Formerly Utilized Sites Remedial Action Program (FUSRAP) to the Corps of Engineers, via the Energy and Water Development Appropriations Act, 1998. The St. Louis District was chosen to remediate low-level radioactive contamination, which resulted from activities conducted by the Manhattan Engineer District/Atomic Energy Commission, at the five St. Louis area sites. These sites include the Madison Site in Madison, Illinois, Hazelwood Interim Storage Site (HISS)/Latty Avenue Vicinity Properties (VPs), St. Louis Airport Site (SLAPS), St. Louis Airport Site Vicinity Properties (SLAPS VPs), and St. Louis Downtown (SLDS), in St. Louis, Missouri. A sixth site, the Iowa Army Ammunition Plant (IAAAP), was declared eligible for inclusion in FUSRAP in FY 01. Cleanup will follow the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act.

Major accomplishments in FY 03 include the disposal of 109,256 cubic yards of material from the Missouri sites (9,052 from SLDS; 99,763 from SLAPS; 441 from HISS/Latty Avenue).

The Corps of Engineers made significant progress in its remediation efforts at SLDS under the approved Record of Decision. Remediation and restoration of the Mallinckrodt Plant 1, Plant 6 East/East Half, Plant 7 East, Midwest Waste (DT-7), Heintz Steel (DT-6) were completed in FY03. Remedial activities in FY04 will focus on Mallinckrodt Plant 6W and properties owned by the City of Venice in support of the McKinley Bridge replacement project.

TABLE 14-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Funds to Sep. 30, 2003
4.	Mississippi River Between Ohio and Missouri Rivers (Includes Chain of Rocks original project and deficiency corrections)	New Work					
		Approp.	5,323,000	6,437,000	3,613,000	1,670,700	\$271,287,274 ¹
		Cost	5,176,900	5,784,758	4,284,721	1,666,730	270,998,578 ¹
		Approp.	15,012,000	13,480,719	18,098,861	24,293,500	475,173,201 ²
		Cost	15,194,684	13,299,366	15,955,383	25,165,997	473,681,277 ²
7.	Alton to Gale Organized Levee Districts, IL & MO	New Work					
		Approp.	0	2,130,000	856,000	62,400	11,907,400
		Cost	1,185	930,417	2,055,705	62,386	11,907,261
	(Contrib. Funds)	New Work					
		Approp.	0	0	0	0	143,750
		Cost	0	0	16,416	0	116,712
8.	Cape Girardeau, Jackson, MO	New Work					
		Approp.	1,479,000	2,219,000	2,634,000	150,000	35,355,000
		Cost	1,580,879	2,197,980	2,685,687	150,932	35,354,902
	(Contrib. Funds)	New Work					
		Approp.	110,439	344,000	220,000	260,000	3,139,759
		Cost	124,001	130,660	331,982	238,169	3,015,013
10.	East St. Louis and Vicinity, IL	New Work					
		Approp.	2,415,000	1,079,000	186,000	1,539,900	49,011,226 ³
		Cost	2,387,095	1,105,629	278,956	1,546,425	49,008,249 ⁴
	(Contrib. Funds)	New Work					
		Approp.	406,835	100,765	250,000	0	8,315,200
		Cost	359,108	62,391	11,024	256,761	8,202,830
	East St. Louis and Vicinity (Ecosystem Restoration and Flood Damage Reduction), IL	New work					
		Approp.	479,000	370,000	567,000	507,100	2,914,100
		Cost	503,950	330,832	632,394	509,910	2,914,083
	(Contrib. Funds)	New Work					
		Approp.	162,000	50,000	254,000	180,000	894,000
		Cost	224,157	192,517	8,416	319,561	781,530
11.	Meramec R. Basin, Valley Park, MO	New Work					
		Approp.	2,574,000	1,909,000	73,000	1,623,100	20,266,100
		Cost	2,908,181	1,948,177	178,289	1,644,978	20,266,081
	(Contrib. Funds)	New Work					
		Approp.	266,558	300,000	500,000	-378,000	1,529,058
		Cost	272,097	300,000	401,922	-279,930	1,529,050
	Bois Brule, MO (Design Deficiency)	New Work					
		Approp.			1,200,000	199,000	1,399,000
		Cost			797,310	452,060	1,249,370
	(Contrib. Funds)	New Work					
		Approp.			0	0	0
		Cost			0	0	0

**TABLE 14-A COST AND FINANCIAL STATEMENT
(Continued)**

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Funds to Sep. 30, 2003
12	Nutwood Drainage and Levee District, IL	New Work					
		Approp.	0	0	121,000	124,300	245,300
		Cost	0	0	120,735	124,504	245,239
	(Contrib. Funds)	New Work					
		Approp.	0	0	0		0
		Cost	0	0	0		0
15.	Ste. Genevieve, MO	New Work					
		Approp.	11,780,000	2,284,000	1,659,000	310,700	25,798,700
		Cost	14,613,858	2,329,106	1,713,540	333,701	25,796,437
	(Contrib. Funds)	New Work					
		Approp.	2,300,000	306,605	-13,588	-62,530	6,551,650
		Cost	2,964,764	403,243	-7,346	7,535	6,482,296
25.	FUSRAP (Total)	New Work					
		Approp.	53,750,000	60,179,000	52,480,000	52,884,000	413,336,000
		Cost	57,476,272	60,160,402	52,563,423	53,059,736	412,542,851
	Madison	New Work					
		Approp.	1,754,000	80,000	0	0	2,284,000
		Cost	1,700,625	60,912	51,839	10,598	2,239,147
	Latty Avenue	New Work					
		Approp.	7,050,000	11,397,000	4,373,000	1,930,000	62,062,000
		Cost	9,158,737	11,427,731	4,379,910	1,969,028	61,936,413
	St. Louis Airport	New Work					
		Approp.	27,727,000	29,044,000	31,111,000	37,043,000	193,290,000
		Cost	28,629,141	28,981,853	31,099,607	37,136,346	193,073,908
	St. Louis Airport & Vic. Properties	New Work					
		Approp.	3,397,000	1,863,000	1,670,000	1,575,000	38,137,000
		Cost	3,686,467	1,787,194	1,762,701	1,582,424	38,026,626
	St. Louis Downtown	New Work					
		Approp.	13,782,000	17,720,000	15,316,000	12,286,000	117,188,000
		Cost	14,294,826	17,815,195	15,233,812	12,350,147	116,934,462
	Iowa Army Ammunition Plant	New Work					
		Approp.	40,000	75,000	10,000	50,000	175,000
		Cost	0	85,547	35,553	11,195	132,294
	Oakridge Transition	New Work					
		Approp.	0	--	0	0	200,000
		Cost	6,476	1,969	0	0	200,000

1. Excludes previous project cost of \$1,416,620.

2. In addition \$1,139,000 was expended for rehabilitation.

3. Includes \$8,072,326 for work authorized by Flood Control Act of 1965.

4. Includes \$7,921,939 for work authorized by Flood Control Act of 1965.

5. Excludes previous project cost (prior to FY97) of \$15,632,925.

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TABLE 14-B
(Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Nov. 28, 1990	Modified to provide construction of cost-shared recreation facilities within the state of Illinois	Public Law 101-640, 101st Cong.
Oct. 31, 1992	Modified to allow cost-shared recreation with other non-Federal interests and authorized a 24,000 square foot visitor center.	Public Law 102-580, 102nd Cong.
Oct. 12, 1996	Amended project for recreation to include other contiguous nonproject lands, including those referred to as the Alton Commons.	Public Law 104-303
1960 River and Harbor Act as amended. Section 107	SOUTHEAST MISSOURI PORT, MO Construct harbor channel with adjacent landfill.	
Nov. 26, 1986	ST. LOUIS HARBOR, MO & IL (See Section 5 of Text) As outlined in the Report of the Chief of Engineers, dated Apr. 30, 1984, the Water Resources Development Act of 1986 authorizes navigation improvements.	Public Law 99-662 99th Cong., 2d sess.
Oct. 12, 1996	The Secretary shall complete a limited reevaluation of the authorized St. Louis Harbor Project in the vicinity of the Chain of Rocks Canal, Illinois, consistent with the authorized purposes of that project, to include evacuation of waters collecting on the land side of the Chain of Rocks Canal East Levee	Public Law 104-303
Jun. 22, 1936	ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO (See Section 7 of Text) Authorized construction of levees to protect area from flooding from the Mississippi River.	Special report on record in OCE Flood Control Committee Doc. 1, 75th Cong., 1st sess.
Jun. 28, 1938 1946		
Nov. 17, 1986	CAPE GIRARDEAU, JACKSON METROPOLITAN AREA, MO (See Section 8 of Text) As outlined in the Report of the Chief of Engineers dated Dec. 8, 1984, the Water Resources Development Act of 1986 authorizes flood control and related recreational improvements in the Cape La Croix Creek Watershed.	Public Law 99-662, 99th Cong., 2d sess.
Oct. 12, 1996	As outlined in the Report of the Chief of Engineers, dated July 18, 1994, the Water Resources and Development Act of 1996 authorizes construction, including nonstructural measures, at a total cost of \$45,414,000 (\$33,030,000 Federal; \$12,384,000 non-Federal)	Public Law 104-303, 104th Congress
Dec. 11, 2000	CHESTERFIELD, MO (See Section 9 of Text) Authorized for construction, subject to completion of a favorable Chief of Engineers Report by Dec. 31, 2000. (Report was signed Dec. 29, 2000.)	Public Law 106-541 106th Congress

TABLE 14-B
(Continued) **AUTHORIZING LEGISLATION**

Acts	Work Authorized	Documents
Nov. 28, 1990	COLDWATER CREEK, MO As outlined in the report of the Chief of Engineers dated Aug 9, 1988, the Water Resources Development Act of 1990 authorizes flood control.	Public Law 101-640 101st Cong.
Jun. 22, 1936	EAST ST. LOUIS AND VICINITY, IL (See Section 10 of Text) Raise and enlarge existing levee.	Special report on record in OCE.
Oct. 27, 1965	Construct pumping plant and other modifications to reduce interior flooding.	H. Doc 329, 88th Cong., 2d sess.
Oct. 22, 1976	Construct Blue Waters Ditch as independent section.	Public Law 94-587, 94th Cong.
Dec. 22, 1987	Repair and rehabilitate pump stations and appurtenant works, channels, and bridges.	Public Law 100-202, 100th Cong.
Oct. 23, 1962	ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
Oct. 23, 1962	HARTWELL DRAINAGE AND LEVEE DISTRICT, IL Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
Oct. 23, 1962	HILLVIEW DRAINAGE AND LEVEE DISTRICT, IL Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
Oct. 23, 1962	KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL Raise and enlarge existing levee.	H. Doc. 519, 87th Cong., 2d sess.
Nov. 17, 1986	MALINE CREEK, MO As outlined in the Report of the Chief of Engineers dated Nov. 2, 1982, the Water Resources Development Act of 1986 authorizes flood control, recreation, and environmental improvements.	Public Law 99-662, 99th Cong., 2d sess.
Jul. 14, 1984	MAUVAISE TERRE DRAINAGE AND LEVEE DISTRICT, IL Raise and enlarge existing levee and other modifications.	Energy and Water Development Approp. Act of 1985, 98th Cong., 2nd sess.
Jun. 28, 1938	MERAMEC RIVER BASIN, MO (See Section 11 of Text) Construct reservoirs and local protection project.	Flood Control Committee, Doc. 1, 75th Cong., 1st sess.
Nov. 7, 1966	Construct Pine Ford, Irondale, and I-38 dams and 19 Angler-use sites.	H. Doc. 525, 89th Cong., 2d sess.

TABLE 14-B
(Continued) **AUTHORIZING LEGISLATION**

Acts	Work Authorized	Documents
Dec. 29, 1981	Undertake structural and nonstructural flood control measures.	Public Law 97-128, 97th Cong. Amended Section 1128, Public Law 99-662, 99th Cong.
Aug. 17, 1999	Modified to authorize construction at a maximum Federal expenditure of \$35,000,000	Public Law 106-53, 106th Cong., 1st sess.
Dec. 1, 2003	Modified to authorize construction at a maximum Federal expenditure of \$50,000,000.	H. Doc 150 88 th Cong.
Oct. 23, 1962	MC GEE CREEK DRAINAGE AND LEVEE DISTRICT, IL Reconstruct existing levee and construct pumping plant to reduce flooding.	H. Doc. 472, 87th Cong., 2d sess.
Oct. 23, 1962	MEREDOSIA LAKE AND WILLOW CREEK DRAINAGE AND LEVEE DISTRICT, IL Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
Oct. 23, 1962	NUTWOOD DRAINAGE AND LEVEE DISTRICT, IL (See Section 12 of Text) Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
Oct. 23, 1962	REND LAKE, BIG MUDDY RIVER, IL Construct dam at Benton, IL, and subimpoundment dams on upper arms of reservoir.	H. Doc 541, 87th Cong., 2d sess.
Nov. 28, 1990	RIVER DES PERES, MO (See Section 13 of Text) As outlined in the report of the Chief Engineers dated May 23, 1989, the Water Resources Development Act of 1990 authorizes flood control.	Public Law 101-640 101st Cong.
Aug. 9, 1955	ST. LOUIS FLOOD PROTECTION, MO (See Section 14 of Text) Construct flood control improvements.	Public Law 84-256 84th Cong.
Nov. 17, 1986	STE. GENEVIEVE, MO (See Section 15 of Text) As outlined in the Report of the Board of Engineers for Rivers and Harbors dated Apr. 16, 1985, the Water Resources Development Act of 1986 authorizes construction of a levee and a pumping plant to protect the city from Mississippi River and Gabouri Creek floods.	Public Law 99-662, 99th Cong., 2d sess.
Jun. 28, 1938	WOOD RIVER DRAINAGE AND LEVEE DISTRICT, IL (See Section 16 of Text) Construct reservoirs and local protection projects.	Flood Control Committee Doc. 1, 75th Cong., 1st sess.
Oct. 27, 1965	Authorized substantially as recommended by the Chief of Engineers.	H. Doc 150 88th Cong.

TABLE 14-B **AUTHORIZING LEGISLATION**
(Continued)

Acts	Work Authorized	Documents
Jun. 28, 1938	WOOD RIVER LEVEE, IL (See Section 17 of Text) Construct reservoirs and local protection projects.	Flood Control Committee Doc. 1, 75th Cong, 1st sess.
Oct. 23, 1962	CLARENCE CANNON DAM AND RESERVOIR, SALT RIVER, MO Modified act of Jun. 28, 1938 by deleting the reservoir therefrom and reauthorizing it as a separate multiple-purpose project.	H. Doc. 507, 87th Cong., 2d sess.
Oct. 27, 1965	Changes name of project from Joanna Dam to present designation.	Public Law 89-298, 89th Cong.
Oct. 13, 1997	Formerly Utilized Sites Remedial Action Program (FUSRAP) (See Sec. 25 of text.) Carry out remediation at five St. Louis Area sites - Madison, Illinois, Latty Avenue, St. Louis Airport, St. Louis Airport and Vicinity Properties, and St. Louis Downtown, MO.	Energy and Water Development Approp. Act of 1998

1. Also joint resolution, Jun. 29, 1906.
2. Inactive.
3. All work completed.

TABLE 14-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report For:	Cost to Sep. 2002		Mo. and Yr. Completed
		Construction	Operation and Maintenance	
Cuivre River, MO ¹	1883	\$ 12,000	\$ --	--
Kaskaskia River, IL ²	1989	147,387,000	36,306,318	1988
Moccasin Springs, MO	1969	76,436 ³	--	--
Southeast Missouri Port, MO	1993	3,466,522	2,724,824	Apr. 89
Wabash Railroad Bridges, Illinois River, Meredosia, and Valley City, IL	1961	2,653,194	1961	--

1. Inactive. River declared nonnavigable by act of Mar. 23, 1900.

2. Excludes \$10,461 expended on previous project.

3. Excludes \$56,605 contributed funds.

TABLE 14-D **OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Project	For Last Full Report See Annual Report For:	Cost to Sep. 2003		Mo. and Yr. Completed
		Construction	Operation and Maintenance	
Clarence Cannon Dam and Reservoir, Salt River, MO	1996	313,180,128	103,363,239	--
Cache River Diversion, IL	1953	2,837,114	--	1953
Cape Girardeau, MO, No. 2	1965	5,157,805	--	1964
Carlyle Lake, IL	1981	42,819,400	113,388,707	Oct. 1976
Chouteau, Nameoki, and Venice Drainage and Levee District, IL	1955	185,700	--	1955
Columbia Drainage and Levee District No. 3, IL	1981	2,818,000	--	Aug. 1981
Degognia and Fountain Bluff Levee and Drainage District, IL	1959	5,889,500	--	1959
Dively Drainage & Levee District, IL	1976	1,720,000	--	1976
Emergency bank protection for certain highway and railroad facilities at Price Landing, MO (see Flood Control Act of 1944) ¹	1950	55,415	--	Oct. 1949
Emergency repairs to levees on Mississippi, Illinois, and Kaskaskia Rivers and flood fighting and rescue work (Sec. 5, Flood Control Act of 1941, as amended) ¹	1953	--	--	1951
Emergency protection for certain highway and railroad facilities at Chester, IL, bridge (Sec. 12, Flood Control Act of 1944)	1952	50,000	--	Jan. 1952
Emergency protection for Illinois approach, Chain of Rocks Bridge (Sec. 12, Flood Control Act of 1944)	1946	25,000	--	Aug. 1945
Fort Chartres and Ivy Landing Drainage District No. 5, IL	1970	1,154,800	--	1958
Grand Tower Drainage and Levee District, IL	1959	4,677,900	--	1959
Harrisonville Levee and Drainage District, IL	1981	6,829,069	--	Mar. 1981
Kaskaskia Island Drainage and Levee District, IL	1959	297,460	--	1949
Lake Shelbyville, IL	1981	44,000,000	116,566,017	Sep. 1978
Mauvaise Terre Drainage and Levee District, IL	1989	589,000	--	1988
McGee Creek Drainage and Levee District, IL	1989	25,043,300	--	1989
Meredosia Lake and Willow Creek Drainage and Levee District, IL	1944	249,738	--	1944
Miller Pond Drainage District, IL	1955	164,183	--	1955

TABLE 14-D
(Continued)
**OTHER AUTHORIZED FLOOD
CONTROL PROJECTS**

Project	For Last Full Report See Annual Report For:	Cost to Sep. 2003		Mo. and Yr. Completed
		Construction	Operation and Maintenance	
Mississippi River Agricultural Area 8, MO	1987	2,137,000	--	--
Mississippi River at St. Louis, MO	1980	79,265,166	--	Jan. 1980
Mississippi River, Alton to Gale, IL, underseepage measures	--	85,422	--	Oct. 1962
North Alexander Drainage and Levee District, IL	1957	939,569	--	1957
Nutwood Drainage and Levee District, IL	1989	670,000	--	1984
Perry County Drainage and Levee ² District Nos. 1, 2, and 3, MO	1987	7,968,700	--	1986
Pine Ford Lake, MO	1996	3,644,000	--	-
Prairie du Pont Levee and Sanitary District, IL ³	1970	6,005,127	--	1970
Prairie du Rocher and vicinity, IL	1959	3,882,600	--	1959
Preston Drainage and Levee District, IL	1959	1,866,910	--	1959
Rend Lake, Big Muddy River, IL ^{4,5}	1989	43,700,900	89,548,650	1988
Strington, Ft. Chartres, and Ivy Landing, IL	1957	2,123,700	--	Aug. 1956
Urban areas at Alton, IL	1960	192,000	--	--
Village of New Athens, IL	1981	1,983,000	--	Sep. 1981
Valley City Drainage & Levee District, IL ⁶	1967	91,952	--	1967
Wood River Drainage and Levee District, IL ⁷	1989	17,163,821	--	1988

1. Work complete, now performed under Public Law 99.

2. Excludes \$6,800,700 for previous project.

3. Includes \$5,235,927 for previous project.

4. Excludes \$550,000 Area Development Administration Funds allotted to the State of Illinois for increased construction costs of Interstate Highway 57 to meet project requirements, and excludes \$449,093 Area Redevelopment Administration Funds allotted to the Corps.

5. Includes \$6,103,711 credit to State of Illinois for work in kind.

6. Authorized by Chief of Engineers (Sec. 205, 1948 Flood Control Act, as amended).

7. Funds are for work authorized by Flood Control Act of 1938.

TABLE 14-E DEAUTHORIZED PROJECTS

Project	Report For	For Last Full Report See Annual Authority	Date And Expended	Federal Funds Exp	Contrib Funds
Angler-use sites, Meramec Basin, MO		1967	WRDA 1986 Oct 86	--	--
Big Swan D&L District Illinois River, IL		--	WRDA 1986 Oct 86	--	--
Cape Girardeau, MO Reaches Nos 1, 3, and 4		1959	Oct 78	\$ 22,000	--
Clear Creek Drainage and Levee District, IL		1964	PL 100-676 Jan 90	4,984,500	--
East Cape Girardeau and Clear Creek D&L District, IL		1963	PL 100-676 Jan 90	1,920,600	--
Eldred, IL		1962	Nov 79	--	--
Fort Chartres & Ivy Landing D&L District No. 5 and Stringtown Drainage and Levee District No. 4, IL		1971	WRDA 1986 Oct 86	--	--
Grafton Small Boat Harbor, IL		1962 ¹	Nov 77	--	--
I-38 Lake, MO			PL 100-676 1 Jan 1990	--	--
Indian Creek Area Illinois River, IL		--	Nov 81	--	--
Irondale Lake, MO			PL 100-676 1 Jan 1990	--	--
Keach Drainage and Levee District, IL		--	WRDA 1986 Oct 86	--	--
Levee Districts between Carlyle and New Athens, IL, Nos. 2, 5, 6 and 7		1979	Nov 79	--	--
Levee Districts between Carlyle and New Athens, IL Nos. 3, 4, 8, 10 and 13		1979	Nov 79	--	--
Levee Districts between Cowden and Vandalia, IL		1978	Oct 78	496,000	--
Meramec Park Lake, MO			Dec 81	37,682,514	--
Mississippi River Agricultural Area No. 10, MO		1967	Nov 79	--	--
Mississippi River Agricultural Area No. 12, MO		1967	WRDA 1986 Oct 86	--	--
Mississippi River at Alton, IL					
Small Boat Harbor		1958 ¹	Nov 77	--	--
Preston Drainage and Levee District, IL		1959	PL 100-676 1 Jan 1990	1,866,910	--
Richland Creek, IL		1969	PL 100-676 10 Aug 89	401,000	--
Riverland Levee District, MO		1936	Aug 77	--	--
Scott County D&L District Illinois River, IL		--	WRDA 1986 Oct 86	--	--
Small Boat Harbor opposite Chester, IL 1954 ¹			Nov 77	--	--
Small Boat Harbor opposite Hamburg, IL 1950 ¹			Nov 77	--	--
Ste. Genevieve County Drainage and Levee District No. 1, MO 1936			Nov 77	--	--

¹ Year authorized.

**TABLE 14-E
(Continued)****DEAUTHORIZED PROJECTS**

Project	Report For	For Last Full Report See Annual Authority	Date And Expended	Federal Funds Exp	Contrib Funds
St. Louis County Drainage and Levee District No. 1, MO		1936	Nov 77	--	--
Union Lake, MO		1979	PL 100-676 Jan 90	4,931,154	--
Wiedmer Chemical Drainage and Levee District, MO		1936	Nov 77	--	--

TABLE 14-F **FLOOD CONTROL WORK**
UNDER SPECIAL AUTHORIZATION

Project	FISCAL YEAR COST		
	Federal Cost	Non-Federal	Total
Flood Control (Section 205, P. L. 858, preauthorization)			
Bois Brule L&D District, MO	\$ 36,441	\$ 12,266	\$ 48,707
Dardenne Creek, MO	9,536		9,536
Elsah, IL	20,592		20,592
Goose Creek, Jackson, MO	42,146		42,146
Grafton, IL	0		0
Festus and Crystal City, MO	3,808,115	221,941	4,030,056
Hubble Creek, Jackson, MO	34,152		34,152
Kaskaskia Island D & LD, IL	6,719		6,719
Keach D & LD, IL	857		857
Lower River des Peres, MO	141,444		141,444
Meredosia, IL	16,669		16,669
Modoc Levee & Drainage District, Prairie, IL	39,954		39,954
Monroe County, IL	37,051		37,051
Prairie du Pont L & DD, IL	32,386		32,386
Santa Fe D & LD, IL	1,976		1,976
Section 205 Coordination Account	9,779		9,779
St. Peters, MO	3,620		3,620
Wellston Branch, MO	0		0
West Frankfurt, IL	14,472		14,472
Williams Creek, Jackson, MO	37,701		37,701
Willow Creek DD, IL	23,076		23,076
	\$4,316,686	\$234,207	\$4,550,893
Emergency StreamBank & Shoreline Protection (Section 14 of 1946 Flood Control Act, P.L. 526)			
Brush Creek, Monroe Co., MO	\$ 10,737		\$ 10,737
Caulks Creek, Metro St. Louis Sewer, MO	11,900		11,900
County Road 228, Hubble Creek, MO	35,306		35,306
Route 143, Big Creek, MO	61		61
Section 14 Coordination Account	10,304		10,304
O'Fallon Sewage Lagoons, MO	154,700	99,980	254,680
Shotwell Creek, MO	21,063		21,063
Salt River, Knox County, MO	14,146		14,146
Wildwood, MO Site 1	-5,253	5,292	39
Total Section 14	\$252,964	\$105,272	\$358,236

TABLE 14-G **ACTIVE GENERAL INVESTIGATIONS**
(96x3121)

Project	FISCAL YEAR COST		
	Federal Cost	Non-Federal	Total
SURVEYS (Category 100)			
<u>Flood Damage Prevention Studies(120)</u>			
Alexander and Pulaski Counties, IL-12217	\$14,240	\$36,014	\$50,254
Festus and Crystal City, MO-10458	-2,080	2,232	152
Subtotal	\$12,160	\$38,246	\$50,406
<u>Watershed Comprehensive Studies (150)</u>			
St. Louis Riverfront, MO & IL	231,903		231,903
Subtotal	\$231,903		\$231,903
<u>Miscellaneous Activities(170)</u>			
American Heritage Rivers Initiative-14410	148,426		148,426
Interagency Water Resources Development-14713	44,093		44,093
Review of FERC Licenses-53857	769		769
Special Investigations-17250	15,890		15,890
Waterfowl Management Plan-53904	1,178		1,178
Subtotal	\$210,356		\$210,356
<u>Coordination Studies with Other Agencies(180)</u>			
Coordination with Other Water Resources Agencies	3,022		3,022
PAS – Kaskaskia Riverbank Erosion	25	9,193	9,218
PAS – Findlay, IL, WWTP Study	1,608		1,608
PAS – St. Louis County	34,837	33,661	68,498
PAS – Negotiation Funds	1,100	0	1,100
PAS – Brooklyn Waterfront Development	39,871	44,000	83,871
PAS – East St. Louis Waterfront Development	109,173	77,878	187,051
PAS – Chouteau Island Environmental Study	2,930	6,136	9,066
PAS – Pool 25, MO, Riparian Study	2,075	10,312	12,387
PAS – Chouteau Lake, MO	463		463
PAS – Great Rivers Corridor Master Plan	40,900	10,766	51,666
Subtotal	\$236,004	\$191,946	\$427,950
TOTAL (Category 100)	\$690,423	\$230,192	\$920,615
COLLECTION AND STUDY OF BASIN DATA (Category 200)			
<u>Flood Plain Management Services (250)</u>			
Flood Plain Management Services (250)-82030, 82040, 82045, 83184	78,946		78,946
Hydrology Studies (260)-53820	8,087		8,087
TOTAL (Category 200)	\$87,033		\$87,033

TABLE 14-G **ACTIVE GENERAL INVESTIGATIONS**
(Continued) **(96x3121)**

Project	FISCAL YEAR COST		
	Federal Cost	Non-Federal	Total
PRECONSTRUCTION ENGINEERING AND DESIGN (Category 600)			
St. Louis Harbor, MO & IL-10184	\$ 87,973		87,973
Chesterfield, MO-10457	440,445	24,683	465,128
Wood River D&LD, IL-20180	20,062		20,062
River de Peres, MO-12638	-30,395	55,628	25,233
Wood River Levee, IL-10524	112,403	144,819	257,222
St. Louis Flood Protection, MO-17360	107,627	3,715	111,342
TOTAL (Category 600)	\$738,115	\$228,845	\$966,960
GRAND TOTAL GENERAL INVESTIGATIONS	\$1,515,571	\$459,037	\$1,974,608

ROCK ISLAND, IL, DISTRICT

This district comprises most of the northern half of Illinois, portions of southern Wisconsin, southern and southwestern Minnesota, eastern and central Iowa, and northeastern Missouri, embraced in drainage basin of Mississippi River and its eastern and western tributaries between mile 300 (above mouth of Ohio River) and 614, and of its eastern tributaries only, between

Hamburg Bay, at mile 261 and 300. This district also includes the Illinois Waterway above mile 80 with its tributaries and drainage basins. The section of the Mississippi River between river miles 300 and 614 is included in the report on Mississippi River between Missouri River and Minneapolis, MN.

IMPROVEMENTS

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Navigation

1. ILLINOIS AND MISSISSIPPI CANAL, IL

Location. This canal extends for 75 miles from the Illinois River near LaSalle, IL, to the Mississippi River at Rock Island, IL. A feeder canal, 29 miles in length, extends from the summit level of the canal to the Rock River at Rock Falls, IL.

Existing project. See pages 1306-1308 of Annual Report for 1962 for details regarding project. The canal was constructed in the period 1892-1918. The canal has not been operated for navigation since June 1951 in accordance with Corps policy to discontinue operation of waterways affording little or no benefit to navigation. The River and Harbor Act of 1958 authorized the appropriation of \$2,000,000 for the purpose of placing the canal in proper condition for public recreational use and to convey and transfer the canal to the State of Illinois as part of the State park system.

The repair and modification program was initiated in 1961, and a number of canal features have been repaired or modified. In connection with this program, fee title of 1,062 acres and recreational flowage easements over 309 acres of land in Rock River at Rock Falls, formerly under navigation flowage easement, have been acquired. The State of Illinois accepted title to the canal as of August 1, 1970. The River and Harbor Act of 1970 authorized the additional appropriation of \$6,528,000 to be expended for the repair, modification, and maintenance of bridges, title transfer, modification or rehabilitation of hydraulic structures, fencing, clearing auxiliary ditches, and for the repair and modification of other canal property appurtenances.

The repair and modification work was underway until a suit was filed by three Illinois counties and their Commissioners of Highway against the Federal Government and the State in 1974 over maintenance of highway bridges crossing the canal. After the lawsuit was filed, further rehabilitation work by the Federal Government on the canal was suspended.

On November 4, 1981, the Corps of Engineers deposited \$3,722,572 with the Clerk of the U.S. District Court in Chicago in full satisfaction of the Court's judgment. These funds were used by the counties to complete rehabilitation work as directed in the court order. Rehabilitation work by the Federal Government in coordination with the state was resumed in 1984 with the remaining authorization expended in 1987.

The Water Resources Development Act of 1986 authorized an additional appropriation of \$8,472,000 to accomplish the work described in the 1970 River and Harbor Act.

The State of Illinois filed an additional lawsuit against the United States on July 6, 1987 in the U.S. Claims Court in the amount of \$8,472,572. In a preliminary decision on September 22, 1988, the court dismissed the claim for \$3,722,572. A settlement agreement between the State of Illinois and the United States was signed on November 14, 1991. The agreement provided that Illinois release all claims against the United States as stipulated in the claims court and that the United States provide \$4,750,000 to Illinois as reimbursement for previous repair work performed upon the canal bridges by Illinois. On December 16, 1991, the U.S. Claims Court entered a judgment for \$4,750,000 in favor of the State of Illinois. This judgment was paid in FY 92.

Once funds are received, principal work features to restore the canal to acceptable conditions consist of the repair or reconstruction of retaining walls, embankments, portions of the lock and dam structures, culverts, drainage ditches, and other related work features which the United States has maintained or has been obligated to maintain under previous agreements. These features are consistent with a Master Management Plan prepared by the Illinois Department of Conservation. NEPA documentation to assess remaining work items must be completed prior to initiation of construction.

Local cooperation. A revised Supplemental Agreement with all work items remaining was executed between the state of Illinois and the Federal Government in April 1996.

Operations during fiscal year. Operations and maintenance during fiscal year. There were no programmed dollars allotted for this project in FY 03.

2. ILLINOIS WATERWAY, IL AND IN

Location. Illinois River (entirely within State of Illinois), formed by confluence of Kankakee and Des Plaines River, flows southwesterly and enters Mississippi at Grafton, IL, about 38 miles above St. Louis. Illinois Waterway comprises Illinois River from its mouth to confluence of Kankakee and Des Plaines Rivers (273 miles), Des Plaines River to Lockport (18.1 miles) and Chicago Sanitary and Ship Canal and South Branch of Chicago River to Lake Street, Chicago (34.5 miles). Also from a point

12.4 miles above Lockport, IL, waterway comprises Calumet-Sag Channel and Little Calumet and Calumet Rivers to turning basin 5, near entrance to Lake Calumet (23.8 miles); and Grand Calumet River from junction to 141st Street, deep (lake) draft navigation (9 miles) and to Clark Street, Gary, IN (4.2 miles).

Previous projects. For details, see page 1945 of Annual Report for 1915 and page 1172 of Annual Report for 1932.

Existing project. See Table 23-K and page 1255 of Annual Report for 1963. Cost of new work was \$124,041,436 and includes \$445,000 for Recreation Facilities under Code 711. Calumet-Sag Modification, Part III, placed in the deferred-for-restudy category in March 1972, cost of \$33,000,000 (July 1971) Federal and \$20,700,000 (July 1971) non Federal; is excluded from present cost estimate. Land acquired for the project consisted 909.407 acres in fee and 701.48 acres in easement. See Table 23-B for authorizing legislation.

(See Table 15-J through 15-N on existing locks and dams; lock and dam construction, foundations, cost; additional features entering into cost of project; existing project and total cost of existing project.)

Local cooperation. Complied with for completed modifications and Part I of Calumet-Sag Modification.

All pools above Alton Pool:

Maintenance: Channel dredging by contract cutterhead pipeline dredge was performed at Starved Rock, Peoria, and LaGrange pools, at various locations with a total of 162,195 cubic yards of material being removed. Mechanical dredging was performed at Dresden, Marseilles, Starved Rock, Peoria, and LaGrange pools, at various locations with a total of 35,720 cubic yards being removed. The total cost of dredging was \$1,784,000. Continuing construction includes reroof and reside Peoria Project buildings 304 and 306. Construction was initiated for flood repairs to Peoria Lock and Dam storage building and work site, and wicket lifter barge. Maintenance for the navigation function continued at a cost of \$10,844,877 (includes dredging costs). Maintenance of Recreation Features continued at a cost of \$44,502. Total maintenance costs for Operation and Maintenance were \$10,889,379. Net credits to the project were \$4,426, primarily as a result of collections from towboat companies for damages to lock and dam structures.

Operation and Care: Operations for navigation continued at a cost of \$13,152,735. Environmental Stewardship – Management of Natural Resources

continued at a cost of \$56,960. Operations for the Recreation Function continued at a cost of \$321,063. Total operation costs were \$13,530,758.

Total Operation and Maintenance costs were \$24,415,711.

Alton Pool Operation: Costs for the year were \$47,998 for lock operation; \$131,020 for water control management; \$21,747 for dredging activities; and \$65,979 for studies and surveys. Total operation costs were \$266,744.

Alton Pool Maintenance: Maintenance costs for the year totaled \$52,158, all for dredging.

Total operation and maintenance costs for all pools above Alton Pool were \$24,415,710. Alton Pool operation and maintenance costs were \$318,902. Total costs incurred were \$24,734,612.

3. ILLINOIS RIVER BASIN RESTORATION

Location: The project area is the Illinois River Basin defined as the Illinois River, Illinois, its backwaters, its side channels, and all tributaries, including their watersheds, draining into the Illinois River.

Existing Project: The purpose of the Illinois River Basin Restoration project is to develop a restoration program, long-term resource monitoring program, computerized inventory and analysis system, and innovative dredging technology and beneficial use of sediments to restore, preserve and protect the Illinois River Basin. This effort complements tasks being undertaken as part of the related Illinois River Ecosystem Restoration Feasibility Study, sponsored by the Illinois Department of Natural Resources. These efforts are part of the State's Illinois Rivers 2020 initiative, a proposed 20-year, \$2.5 billion, Federal-state effort to restore and enhance the Illinois River Basin. The project involves three districts (Rock Island, St. Louis, and Chicago).

A major initial focus is work on Critical Restoration Projects. Restoration of the Illinois River Basin requires the identification and implementation of projects, within the watershed and along the course of the river that repair past and ongoing ecological damage so that a more highly functioning, self-regulating ecosystem can develop within the existing basin context. Critical Restoration Projects will produce immediate habitat and sediment reduction benefits; will help evaluate the effectiveness of various restoration methods before application system wide; and make best

use of the current strong local and State interest in ecosystem restoration within the basin. The Corps of Engineers will implement these Critical Restoration Projects in collaboration with the non-Federal sponsor and other Federal and local agencies. Currently six Critical Restoration Projects are in various states of completion. These projects include: Waubonsie Creek, Blackberry Creek, Pekin Lake, Kanakee River, Iroquois River, and McKee Creek.

Critical Restoration Projects: Have been initiated at 6 locations in the river basin.

Operations During Fiscal Year: Critical Restoration Project at Pekin Lake completed public review in August 2003 and initiation of design in September 2003. Expenditures during FY 03 totaled \$23,161.

4. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN

For report on this improvement, see chapter on "Mississippi River between Missouri River and Minneapolis, MN."

5. UPPER MISSISSIPPI - ILLINOIS NAVIGATION STUDY

Location. The study includes both the Upper Mississippi River and the Illinois Waterway. The study area covers over 850 miles of navigable waterways and 29 locks and dams of the Upper Mississippi River from the headwaters at St. Anthony Falls near Minneapolis-St. Paul, Minnesota; downstream to the mouth of the Ohio River at Cairo; and the Illinois Waterway (eight locks and dams) from Lake Michigan in Chicago, Illinois, southwest to where the waterway joins with the Mississippi River at Grafton, Illinois, 348 miles long. The Upper Mississippi River system meanders through the states of Minnesota, Wisconsin, Iowa, Illinois, and Missouri, and over 40 counties. The Illinois Waterway is located entirely within the State of Illinois.

Existing project. The Study has been restructured to give equal consideration of fish and wildlife resources and navigation improvement planning consistent with recommendations from the National Research Council and the Federal Principals Group. The restructured study is addressing the navigation efficiency needs of the UMR-IWW system, the ongoing cumulative effects of navigation, and the ecosystem restoration needs with a goal of attaining an environmentally sustainable navigation system. Undertaken by four Corps Districts (St. Paul, Rock Island, St. Louis, and New Orleans). The review of this

completed project is authorized by Section 216, Flood Control Act of 1970, PL 91-611.

Local cooperation. None required.

Operations during fiscal year. A Draft Feasibility Report will be released for a 90-day public review in April 04. The Chief's Report and final feasibility report with final environmental impact statement (FEIS) is scheduled for completion in Oct 2004. The Feasibility Phase was continued during FY 03 at a cost of \$6,152,177.

6. UPPER MISSISSIPPI RIVER SYSTEM ENVIRONMENTAL MANAGEMENT PROGRAM (USMRS-EMP), IL, IA, MN, MO, WI

Location. The project is authorized for those river reaches having commercial navigation channels on the Upper Mississippi River, Illinois River, Minnesota River, St. Croix River, and Kaskaskia River in the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin.

Existing project. The purpose of the UMRS-EMP as stated in the authorizing legislation is to ensure the coordinated development and enhancement of the Upper Mississippi River system, recognizing its several purposes. The program includes habitat rehabilitation and enhancement projects to counteract the effects of backwater sedimentation. Long Term Resource Monitoring will provide the means for more informed management of the UMRS. Also authorized was a study of the economic impacts of completed recreation, completed navigation traffic monitoring, and recreation projects (currently unfunded). The program was initiated in 1986 utilizing funds provided by PL 99-88, FY 1985 Supplemental Appropriation Act. PL 99-662, Water Resources Development Act of 1986, further defined the program and provided for a 10 year implementation period and was extended to 15 years by PL 101-640, Water Resources Development Act of 1990. The Water Resources Development Act of 1999, P.L. 106-53, amends the previous authority by deleting recreation as a project purpose; increasing annual appropriation limits available to the program; authorizing an independent technical advisory committee; requiring submission of a report to Congress on a 6 year cycle that evaluates programs, accomplishments, assesses systemic habitat needs, and identifies any needed changes to the Program authorization.

Local Cooperation: Local cooperation agreements are obtained for habitat projects for such projects not located on lands managed as a national wildlife refuge,

within the meaning of Section 906(e) of the 1986 WRDA. WRDA 1999 establishes a cost sharing percentage of 35 percent for such projects.

Operations During Fiscal Year. Expenditures during the year totaled \$10,403,000. The majority of funds was expended on two primary program elements: habitat projects and long term resource monitoring. FY 03 funds were used for construction on 7 habitat projects and for design activities on 11 additional habitat Projects, as well as applied research and long term resource monitoring. Construction has essentially been completed on a total of 41 projects (with many multiple phases) since the program was initiated. Data collection, analysis of data and production of technical and special reports was continued by contract with the Upper Midwest Environmental Sciences Center in Lake Onalaska, WI. The first report to Congress detailing the programs activities since the programs inception was completed and was submitted to Congress in January 1998. The second report to Congress is scheduled for submission in January 2004. A Habitat Needs Assessment was submitted to Congress in Sep. 2000. This assessment addressed the ecosystem needs along the Environmental Management Programs' reaches of the Upper Mississippi River.

7. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 15-C.

Flood Control

8. CORALVILLE LAKE, IA

Location. Coralville Lake is formed by the Coralville Dam on the Iowa River, several miles upstream from Iowa City, Johnson County, IA, about 83 miles above the confluence of the Iowa River with the Mississippi River.

Existing project. See page 28-4, Annual Report for 1981, for project details. Construction began in July 1949 and the project has been in operation since February 1958. About 25,035.76 acres in fee of land were acquired and 3,673.113 acres in flowage easements. The project was modified to provide for construction of a highway bridge crossing the lake at the Mehaffey site, which was begun in June 1964 and completed in October 1966. See Table 15-B for authorizing legislation.

Operations during fiscal year. No backlog maintenance was performed during FY 03. Operation and Maintenance: Routine operations and maintenance activities continued at a cost of \$2,865,735.

9. DES MOINES RECREATIONAL RIVER RIVER AND GREENBELT, IA

Location. The greenbelt area is located along both banks of the Des Moines River in central IA and extends from a point at which relocated U.S. Highway 92 crosses the Des Moines River near Harvey, upstream approximately 169 river miles to U.S. Highway 20, and includes portions of Fort Dodge, IA. It also includes the Corps' operated Lake Red Rock and Saylorville Lake projects.

Existing project. The project will include, but not be limited to: (1) the construction, operation, and maintenance of recreational facilities and streambank stabilization structures; (2) maintenance of all structures constructed before the date of authorization of this project (other than any such structure operated and maintained by any person under a permit or agreement with the Secretary); (3) such tree plantings, trails, vegetation, and wildlife protection and development for recreational purposes; and (4) the prohibition or limitation by the Secretary of the killing, wounding, or capturing at any time of any wild bird or animal in such areas as may be directed by the Secretary. In carrying out the project the Secretary may acquire by purchase, donation, exchange, or otherwise, land and interests therein, as the Secretary determines are necessary to complete the project.

The authorization requires that an Advisory Committee be established for consultation with the Department of the Army consisting of 47 members; three Corps of Engineers appointees, one person from the city of Des Moines, and one from each other incorporated municipality within the greenbelt, two from each of the nine counties in the greenbelt, and five from the State of Iowa. See Table 15-B for authorizing legislation. Twelve Federally-funded projects have been completed under the Greenbelt authority prior to FY 02, five of which were cost-shared with local communities.

Local Cooperation. Local Cooperation Agreements have been executed for five cost-shared projects. Letters of assurance have been received for the two cost-shared projects recommended for inclusion in the Greenbelt by the 2003 Annual Program Management Report.

Operations during fiscal year. For the first time since FY 95, the FY 03 Appropriations Act included funds for the Greenbelt. These funds were used to continue coordination with the Advisory Committee, prepare design agreements to initiate cost-shared planning studies at Des Moines and Fort Dodge, initiate preparation of plans and specifications for Trail

Segment 4b at Lake Red Rock, and initiate planning studies for Cordova Center at Lake Red Rock. Twelve projects in total have been completed to date. Costs incurred in FY 03 were \$414,857.

10. LOVES PARK, IL

Location. The Loves Park project is located in Winnebago County, IL on the northeast boundary of the city of Rockford, IL. Loves Park is 17 miles south of the Illinois-Wisconsin state line.

Existing project. The project provides 100-year flood protection along Loves Park Creek. Protection measures consist of 18,000 feet of channel improvements, two diversion structures, use of two existing lakes as storage reservoirs, and 3,100 feet of buried concrete pipe. The estimated project cost is \$30,400,000 including \$9,400,000 non-federal costs. See Table 15-B for authorizing legislation.

Local cooperation: The local cooperation agreement was executed on March 26, 1991.

Operations during fiscal year. FY 03 Funds were used to continue construction of Stage 1B. Total costs incurred during FY 03 were \$6,801,888.

11. RED ROCK DAM AND LAKE RED ROCK, IA

Location. The site of this project is on the Des Moines River, chiefly in Marion County, but extending into Jasper, Warren, and Polk Counties. The dam is 142.9 miles above the mouth of the Des Moines River, which empties into the Mississippi River at mile 361.4 above the mouth of the Ohio River. The city of Des Moines lies northwesterly from the site, about 60 miles upstream.

Existing project. See page 28-6, Annual Report for 1981 for description of the project. Construction began in May 1960, and the dam was placed in beneficial use for storage of flood water in January 1969. Land acquired for the project consisted of 50,207.860 acres in fee and 26,353.645 acres in flowage easement. Landowner complaints, that lake operation have flooded their lands more frequently than what they were told to expect when flowage easements were initially acquired, led Congress to modify the project authorization. Language in PL 99-190 authorizes acquisition from willing sellers fee simple title in real property, which is subject to periodic flooding in connection with the operation of the project. Potentially there are approximately 1,000 tracts consisting of about

30,000 acres. Estimated Federal cost is \$43,500,000. See Table 15-B for authorizing legislation.

Local Cooperation. None required.

Operations during fiscal year. Additional Land Acquisition efforts were deferred due to lack of funding. Operation and Maintenance activities were continued at a cost of \$5,151,635.

12. SAYLORVILLE LAKE, IA

Location. The project site is chiefly in Polk County, IA, but portions extend into Dallas and Boone Counties. The dam is about 213.7 miles above the mouth of the Des Moines River and about 5 miles upstream from the city of Des Moines, IA.

Existing project. The dam is an earth embankment 6,750 feet long at crest with a height of 120 feet. Outlet works are a single circular concrete conduit, 22 feet in diameter, located at the toe of the west bluff. Control structure is at upstream end of conduit and uses three gates. A stilling basin is provided to dissipate energy of discharge from outlet conduit. Spillway is in the west bluff, weir 430 feet long. Water flowing over the spillway weir discharges into a paved chute and thence into an excavated earth channel to the Des Moines River. Top of spillway is about 31 feet below top of earth embankment section, and flow over weir is uncontrolled when water in reservoir reaches its crest. Watershed area above dam site is 5,823 square miles. With pool at spillway crest elevation, lake area is 16,700 acres and contains about 676,000 acre-feet of water at that height (602,000 for flood control and 74,000 for a conservation pool to maintain minimum flows at downstream points). Lake supplements capacity of downstream Lake Red Rock at river mile 142.9. The two lakes provide a high degree of flood protection to the lower Des Moines River Valley. Reach along the Mississippi River downstream from the mouth of the Des Moines River are also benefitted.

A project modification plan to minimize the adverse environmental effects at Ledges State Park, located upstream from the dam, was authorized in 1976. The project modification included relocation of affected park facilities, acquisition of additional park land, and the development of a floodway corridor, with recreational facilities, from the dam downstream to Sixth Avenue in Des Moines. Improvements to Highway 415, the main access road to existing facilities on the east side of the reservoir, were added to the project by Congress in 1984. Segments A and B of Highway 415 have been completed. Segment C of Highway 415 was completed in 1994.

Construction began in June 1965, and the dam was placed in operation for the storage of flood water in April 1977. Remedial work in Big Creek Valley, consisting of diversion dam and channel and a barrier dam, for the protection of the town of Polk City was completed in December 1974. The land acquisition program involved 25,529.397 acres in fee and 1,498.444 acres in flowage easements. The estimated project cost is \$116,470,000 including \$2,820,000 in non-Federal costs from the State of Iowa and the City of Des Moines, for recreational development. See Table 15-B for authorizing legislation.

Local cooperation. Fully complied with.

Operations during fiscal year. New work: Project right-of-way has been transferred to the Iowa Department of Transportation, the project sponsor. Planning, Engineering, and Design efforts for the 86th street improvements project were turned over to Polk County. Operation and maintenance activities were continued at a cost of \$4,002,555.

13. WEST DES MOINES, IA

Location. The city is located in Polk County in central Iowa.

Existing project. The project provides flood protection from the Raccoon River and Walnut Creek. The project consists of four stages: Stage I, 3,100 feet of levees and floodwalls along Walnut Creek north of Ashworth Road; Stage II, 9,000 feet of levees along the Raccoon River from Jordan Creek to 63rd Street, with pump station; Stage IIIA, 4,500 feet of levees along the lower end of Walnut Creek; and Stage IIIB, 5,800 feet of levees and flood walls tying Stages I and IIIA along Walnut Creek with pump station and tying Stages II with IIIA along the Raccoon River. The project provides 100-year protection and will prevent 4.387 million dollars in average annual damages. See Table 15-B for authorizing legislation.

Local cooperation. Fully complied with.

Operations during fiscal year. New Work: Construction of the project is complete and the project was closed in 2003. Total costs incurred during FY 03 were \$257,871.

14. MUSCATINE ISLAND, IA

Location. Muscatine Island lies on the west bank of the Mississippi River in Muscatine and Louisa Counties, Iowa, adjacent to and in the city of Muscatine, IA. The flood protection area of 30,800

acres is protected by 15.6 miles of existing sand and clay levees. The protected area consists of residential, commercial, industrial and agricultural areas and also includes U.S. Highway 61 and the Muscatine Municipal Airport.

Existing Project. The existing levee has been raised to provide protection from 200-year floods. This protection level is achieved by improving and raising approximately 6.6 miles of the existing levee system. Also included in the project is construction of an upstream railroad closure structure, improving drainage facilities, concrete I-wall sections and relocating existing utilities. See Table 15-B for authorizing legislation.

Local Cooperation. The city of Muscatine and Muscatine Island Levee District are co-sponsors for the project. The Project Cooperation Agreement (PCA) was executed on 21 September 1995.

Operations during fiscal year. The project was completed in June 2000 and was closed in 2003. Total costs incurred during FY 03 were \$5,311.

15. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Federal flood control regulations (part 208 of title 33, Code of Federal Regulations) provide that the structures and facilities constructed by the United States for local flood protection shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain the maximum benefits. Costs during the period for inspections of projects turned over to local interests to ascertain compliance with Federal requirements were \$227,205. (See Table 15-H for list of completed flood control projects inspected.)

16. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

See Table 15-E.

17. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION – Continuing Authorities Program

Navigation (Section 107) 1960 Act & Mods,) See Table 15-I.

Emergency Bank Protection (Section 14 of the 1946 Flood Control Act, Public Law 526.) See Table 15-1.

Flood Control Activities (Section 205, Public Law 84-685.) See Table 15-I.

Snagging and Clearing of Navigable Streams and Tributaries in Interest of Flood Control (Section 208, Public Law 83-780.) See Table 15-I.

Miscellaneous

**18. ECOSYSTEM RESTORATION WORK
UNDER SPECIAL AUTHORIZATION**

Project Modifications for Improvement of Environment Pursuant to Sec. 1135, Public Law 99-662, as amended (preauthorization). See Table 15-I.

Aquatic Ecosystem Restoration Pursuant to Sec. 206, P.L. 104-303. See Table 15-I.

Wetland/Other Aquatic Habitat Section 204, P.L. 102-560. See Table 15-I.

19. GENERAL REGULATORY FUNCTIONS

Enforcement	\$ 373,306
Permit Evaluations	<u>1,762,312</u>
Total	\$2,135,618

**20. OPERATIONS AND MAINTENANCE
CATASTROPHIC DISASTER
PREPAREDNESS PROGRAM**

National Preparedness	\$ 22,765
National Emergency Facility	<u>2,998</u>
Total	\$ 25,763

21. OTHER PROGRAMS AND ACTIVITIES

Anti-Terrorism/Force Protection	\$ 56,529
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**22. FLOOD CONTROL AND COASTAL
EMERGENCY (FC&CE)**

Disaster Preparedness Program	\$ 388,561
Emergency Operations	91,937
Rehabilitation/Inspection	<u>4,915,180</u>
Total	\$5,395,678

23. ACTIVE GENERAL INVESTIGATIONS

See Table 15-O.

**24. COLLECTION AND STUDY OF BASIC
DATA**

See Table 15-O.

**25. PRECONSTRUCTION ENGINEERING AND
DESIGN**

There were two PED projects in progress during FY 03 at a cost of \$121,133 for Davenport Flood Control project and \$25,886 for Peoria Riverfront Development.

TABLE 15-A COST AND FINANCIAL STATEMENT

Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost to Sep. 03
Illinois and Mississippi Canal, IL	New Work:					
	Approp.	0	0	0	0	7,605,143
	Cost	0	0	0	0	7,605,143
	Maint:					
	Approp.	1,154,000	120,791	0	(872)	24,154,167
Illinois Waterway IL and IN	Cost	1,162,782	118,627	3,055	0	24,154,257
	New Work:					
	Approp.	0	0	0	0	126,707,751
	Cost	0	0	0	0	126,706,419
	Maint:					
	Approp.	22,761,846	23,645,804	23,396,872	23,437,516	539,055,275
	Cost	22,874,728	23,676,798	22,691,002	24,411,285	513,611,988
	Rehab:					
	Approp.	0	(156,000)	0	0	162,473,439
	Cost	2,197	(102,127)	0	(75,140)	162,125,565
Illinois River Basin Restoration	Inland Water Trust Fund:					
	Approp.	0	(157,000)	0	0	15,218,819
	Cost	0	(104,453)	0	(42,000)	14,308,169
	New Work:					
	Approp.	0	0	0	199,000	199,000
	Cost	0	0	0	23,161	23,161
	Contributed Funds					
	Approp.	0	0	0	3,000,000	3,000,000
	Cost	0	0	0	332,555	332,555
Upper Mississippi – Illinois Navigation Study	New Work:					
	Approp.	6,376,000	1,436,579	4,790,000	5,809,847	69,337,026
	Cost	4,845,341	2,049,429	5,388,662	6,152,177	44,137,777
Upper Mississippi River System Environmental Management Program, IL, IA, MN, MO, WI	New Work:					
	Approp.	11,596,000	21,207	8,814,635	10,266,000	41,328,199
	Cost	11,799,516	20,998	8,875,010	10,403,000	41,562,185
	Contributed Funds:					
	Approp.	0	(3,584)	0	221,797	1,821,710
Coralville Lake, IA	Cost	0	8,921	16,530,697	300,332	18,371,875
	New Work:					
	Approp.	0	0	0	0	30,179,488
	Cost	0	0	0	0	30,173,702
	Maint:					
Des Moines Recreational River and Greenbelt, IA	Approp.	2,917,000	2,849,652	2,756,527	2,836,570	70,391,823
	Cost	2,924,660	2,879,118	2,752,463	2,865,734	68,376,187
	New Work:					
	Approp.	125,000	(100,000)	0	415,000	14,086,000
	Cost	209,327	23,534	(6,592)	414,856	13,776,411
	Contributed Funds:					
	Approp.	0	0	0	0	1,457,849
	Cost	0	0	0	0	1,444,555
Loves Park, IL	New Work:					
	Approp.	1,329,000	508,800	1,329,000	6,796,794	20,351,770
	Cost	1,309,510	555,843	1,327,628	6,801,888	20,341,105
	Contributed Funds:					
	Approp.	0	0	200,000	326,000	2,885,000
	Cost	43,495	5,619	5,555	480,987	2,838,037

TABLE 15-A COST AND FINANCIAL STATEMENT
(Continued)

Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost to Sep. 03
Red Rock Dam and Lake Red Rock, IA	New Work:					
	Approp.	0	(3,500)	0	0	13,712,500
	Cost	44,846	194	0	2,376	11,098,746
	Maint:					
	Approp.	5,499,673	4,412,095	5,291,135	3,963,263	88,451,839
	Cost	5,566,218	4,258,772	5,156,220	3,889,592	85,779,814
	Contributed Funds:					
	Approp.	--	9,591	7,120	0	36,561
	Cost	--	0	14,591	2,120	35,133
Saylorville Lake, IA	New Work:					
	Approp.	0	0	0	0	128,067,887
	Cost	4,328	0	0	0	127,872,466
	Maint:					
	Approp.	3,961,509	3,812,239	3,787,893	3,968,122	85,812,004
	Cost	4,089,568	3,782,781	3,758,959	4,002,555	83,225,324
	Contributed Funds:					
	Approp.	0	0	29,787	29,786	3,624,001
	Cost	0	0	90,866	5,614	3,344,315
West Des Moines, IA	New Work:					
	Approp.	(100,000)	(5,000)	0	(261,772)	11,912,228
	Cost	(83,568)	34,095	6,869	(257,870)	11,983,649
	Contributed Funds:					
	Approp.	--	0	(309,556)	211,705	1,923,149
	Cost	6,050	0	0	257,870	1,990,543
	New Work:					
	Approp.	819,000	(31,700)	15,000	3,000	5,199,300
	Cost	939,428	(4,044)	25,018	5,311	5,199,298
Muscatine Island, IA	Contributed Funds:					
	Approp.	0	0	0	0	748,162
	Cost	197,462	0	0	0	748,098

TABLE 15-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
2.	January 21, 1927	ILLINOIS WATERWAY, IL AND IN Channel 9 feet deep and 200 feet wide from mouth of Illinois River to Utica, 231 miles, modification of 2 U.S. locks and dams, removal of 2 State dams. (Act authorized appropriation of not to exceed \$3,500,000 for carrying on work.)	Rivers and Harbors Committee Doc. 69th Cong., 1st sess., and S. Doc. 130, 69th Cong., 1st sess.
	July 3, 1930	Channel 9 feet deep from Utica, IL, to heads of present Federal projects on Chicago and Calumet Rivers 94.6 miles to Lake Street, and 96.3 miles to turning basin 5, respectively, to be secured by means of completed dams, locks, lateral canals, and dredging begun by State of Illinois in general accordance with present plans of State for that work. Act adopting project authorized appropriation of not to exceed \$7,500,000 for carrying on work.	S. Doc. 126, 71st Cong., 2nd sess.
	June 26, 1934 ¹	Operation and care of locks and dams provided for with funds from War Department appropriation for rivers and harbors.	
	August 30, 1935	Construct modern locks and dams at LaGrange and Peoria and a channel 9 feet deep and 300 feet wide below Lockport, exact location and details of design of all structures to be left to discretion of Chief of Engineers, and for time being, that no change be made in water authorized for navigation of Illinois River by act of July 3, 1930.	H. Doc. 184, 73rd Cong., 2nd sess. ²
	August 30, 1935 ³	Also provides for 3 passing places along Sag Channel and authorized channel in Calumet-Sag route to turning basin 5, and dredging at entrance of Lake Calumet.	H. Doc. 180, 73rd Cong., 2nd sess.
	June 14, 1937	Realign portion of Calumet River and abandonment of bypassed section of Calumet River.	Rivers and Harbors Committee Doc. 19, 75th Cong., 1st sess.
	June 20, 1938	Modifies local cooperation requirements in 1935 act.	
	October 23, 1943	Pay damages to levee and drainage districts due to seepage and other factors, not to exceed \$503,500.	H. Doc. 711, 77th Cong., 2nd sess.
	March 2, 1945	Enlarge Calumet-Sag Channel to 160 feet wide and a usable depth of 9 feet. Dredge a barge channel 160 feet wide with a usable depth of 9 feet in Grand Calumet and Little Calumet River Branch of Indiana Harbor Canal to deep (lake) draft through 141st St., East Chicago, IN. Construct in Little Calumet River a lock of suitable dimensions for large navigation. Rebuild or otherwise alter at Federal expense all obstructive railroad bridges across Calumet-Sag Channel, Little Calumet River, Calumet River, Grand Calumet River, and Indiana Harbor Canal, so as to provide suitable clearance, except that no Federal funds shall be expended for removal or alteration of Illinois Central RR bridge at mile 11.20 of Little Calumet River.	H. Doc. 145, 76th Cong., 1st sess.

TABLE 15-B
(Continued)
AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
	July 24, 1946	Substitute following work for that authorized by act of March 2, 1945; replace emergency dam in Chicago Sanitary and Ship Canal; enlargement of that canal thence to Sag Junction and of Calumet-Sag Channel to afford channels 225 feet wide and usable depth of 9 feet; construct along general route depth of 9 feet to 225 feet wide between Little Calumet River and junction with Indiana Harbor Canal and 160 feet wide thence to Clark St., Gary, IN, with a turning basin at Clark St., enlarge Indiana Harbor Canal to 225 feet wide and usable depth of 9 feet between Grand Calumet River and vicinity of 141st St., inclusive; remove Blue Island lock and construct a lock and control works in Calumet River near its head, and similar structures in proposed Grand Calumet Channel west of Indiana Harbor Canal; alter or eliminate railroad bridges across three channels lakeward of Chicago Sanitary and Ship Canal, or construct new railroad bridges to provide suitable clearance.	H. Doc. 677, 79th Cong., 2nd sess.
	July 24, 1946	A small-boat harbor in vicinity of Peoria, IL, by construction of a basin 510 by 250 feet, dredged to 7 feet deep.	H. Doc. 698, 79th Cong., 2nd sess.
	July 17, 1953	\$48,933 to reimburse Nutwood Drainage and Levee District for additional pumping operation; supplementing \$58,750 authorized in October 1943 act.	H. Doc. 144, 81st Cong., 1st sess.
	July 3, 1958	Federal participation in alteration of highway bridges, Calumet-Sag Modification, Part I, which constitute unreasonable obstructions to navigation, in accordance with Public Law 647, 76th Cong., as amended.	H. Doc. 45, 85th Cong., 1st sess. ⁴
	August 18, 1968	Federal participation in alteration of highway bridges, Calumet-Sag Modification, Part II, which constitute unreasonable obstructions to navigation, in accordance with the Public Law 647, 76th Cong., as amended.	Specified in Act. Also H. Doc. 45, 85th Cong., 1st sess.
	November 17, 1986	Illinois River at Peoria, IL modification of navigation project to include an adjacent downstream water area.	Sec. 857, H.R.6, Water Resources Development Act of 1986.
	October 5, 1992	The project for inland navigation, Illinois River, Illinois, authorized by the Rivers and Harbors Act of 1935 (49 Stat. 1035), is modified to direct the Secretary to acquire dredge material disposal areas for such project, at a total Federal cost of not to exceed \$70,000,000.	Sec. 102, Water Resources Development Act of 1992.

**TABLE 15-B
(Continued)**

AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
3.	October 2000 (P.L. 106-541)	IL RIVER BASIN RESTORATION (519) Provide for a 4-year, \$100 million dollar IL River Basin Restoration Program to include habitat rehabilitation and enhancement; development of long-term resource monitoring with computerized inventory and analysis; to complete a comprehensive plan, evaluate new technologies and innovative approaches, and to evaluate and complete critical restoration projects.	Sec. 519, Water Resources Development Act of 2000.
6.	August 15, 1985 (P.L. 99-88)	UPPER MISSISSIPPI RIVER SYSTEM ENVIRONMENTAL MANAGEMENT PROGRAM, IL, IA, MN, MO, WI Provide for a 10-year environmental program to include habitat rehabilitation and enhancement; long-term resource monitoring with computerized inventory and analysis; recreational development; assessment of economic benefits from recreational activities; and navigation system traffic monitoring.	H. Doc. 2577, 99 th Cong., 1 st sess.
	November 17, 1986	Approves 1982 Upper Mississippi River Master Plan, authorizes interstate agreements between Upper Mississippi River states, directs Secretary to implement GREAT II recommendations for disposal of dredged material and facilitate the productive use of dredge material, directs an interagency agreement with the Department of Interior for its participation in the plan, authorizes second lock at Lock and Dam No. 6.	Sec. 1103, H.R. 6, Water Resources Development Act of 1986.
	November 28, 1990 (P.L. 101-640)	Extending authorization for EMP program an additional 5 years.	Sec. 405, Water Resources Development Act of 1990.
	October 31, 1992 (P.L. 102-580)	Increase the HREP appropriation authority to a total of \$189,600,000. Sets limits on amounts which could be transferred between authorities. Operations and Maintenance costs were specified to be the responsibility of the State/Federal/ or local agency responsible for fish and wildlife management.	Sec. 102, Water Resources Development Act of 1992.
	August 17, 1999 (P.L. 106-53)	Extended the program until perpetuity. Increase authorization limits and established a 20% transfer limit. Established an Advisory Committee for independent technical review that requires a Report to Congress NLT 31 Dec 04, and every subsequent 6 years.	Sec. 509, Water Resources Development Act of 1999.
8.	June 28, 1938	CORALVILLE LAKE, IA Reservoir for flood control and recreation.	Flood Control Committee Doc. 1, 75 th Cong., 1 st sess.
	July 14, 1960	Highway bridge across Coralville Lake at or near the Mehaffey site.	None
9.	August 15, 1985 (P.L. 99-88)	DES MOINES RECREATIONAL RIVER AND GREENBELT, IA Recreational development; environmental enhancement; and related streambank stabilization.	H. Doc. 2577, 99 th Cong., 1 st sess.
	November 17, 1986	Defines area of work.	Sec. 604, H.R. 6, Water Resources Development Act of 1986.
	February 13, 2003	The non-Federal sponsor shall receive credit in an amount not to exceed \$10,000,000 toward their share of the cost of Des Moines Recreational River and Greenbelt, Iowa, projects for work performed by the sponsor, or others on behalf of the sponsor, including planning, design, and construction performed after October 1, 2002, provided the Secretary of the Army, acting through the Chief of Engineers, determines that such work is completed in accordance with U.S. Army Corps of Engineers standards and procedures and is integral to the Des Moines Recreational River and Greenbelt project.	108 th Congress, H.R. 108-10, Sec. 122

**TABLE 15-B
(Continued)**

AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
10	November 17, 1986	LOVES PARK, IL Improved channel, diversion structures, pipes, and pond storage.	108 th Congress, H.R. 108-10, Sec. 122
11.	June 28, 1938	RED ROCK DAM AND LAKE RED ROCK, IA Reservoir for flood control and recreation.	Flood Control Committee Doc. 1, 75 th Cong., 1 st sess. PL 99-190
	December 19, 1985	Land Acquisition	
12.	July 3, 1958	SAYLORVILLE LAKE, IA Reservoir for flood control and recreation.	S. Doc. 9, 85 th Cong., 1 st sess.
	October 22, 1976	Modification to minimize adverse project impact on Ledges State Park.	H. Doc. 487, 94 th Cong., 2 nd sess.
13.	November 17, 1986	WEST DES MOINES, IA Construct levees and floodwall.	Sec. 401, H.R. 6, Water Resources Development Act of 1986
14.	November 17, 1986	MUSCATINE ISLAND LEVEE DISTRICT AND MUSCATINE- LOUISA COUNTY DRAINAGE DISTRICT, NO. 13, IA Raise existing levees.	Sec. 401, H.R. 6, Water Resources Development Act of 1986.

1. Permanent Appropriations Repeal Act.
2. Contains latest published map of Illinois and Des Plaines Rivers.
3. Included, in part, in Public Works Administrative Program October 31, 1934, and February 28, 1935.
4. Contains latest published maps of Calumet – Sy portion.

TABLE 15-C OTHER AUTHORIZED NAVIGATION PROJECTS
(See Section 6 of Text)

Project	Status	For Last Full Report See Annual Report For	Cost To September 30, 2003	
			Construction	Operation and Maintenance
Hannibal SBH, MO	Completed	1958	\$ 108,700	\$201,685
Squaw Chute at Quincy, IL	Completed	1967	70,979 ¹	9,345
Muscooten Bay, Illinois River, IL	Completed	1985	265,499	171,000
Quincy, IL, Harbor Acces Channel	Completed	1970	35,477 ²	37,700
Muscatine Harbor, IA	Completed	1964	353,000	356,061

1. Excludes \$25,851 contributed funds.

2. Excludes \$35,350 contributed funds.

TABLE 15-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS
(See Section 15 of Text)

Project	For Last Full Report See Annual Report For	Construction	Cost To September 30, 2003	
			Operation and Maintenance	Contributed Funds Expended
Completed Projects				
Banner Special Drainage and Levee Districts, IL	1943	\$ 247,822	--	--
Bear Creek Dam (City of Hannibal, MO)	1962	1,679,056	--	--
Bettendorf, IA	1987	14,930,085	--	\$ 228,073
Big Lake Drainage and Levee District, IL	1943	144,910	--	--
Canton, MO ¹	1964	1,496,555	--	--
Clinton, IA	1991	26,237,690	--	839,615
Coal Creek Drainage and Levee District, IL	1954	1,923,145	--	--
Crane Creek Drainage and Levee District, IL	1941	68,898	--	--
Des Moines and Mississippi Levee District No. 1, MO	1969	1,492,016	--	--
Des Moines, IA	1972	4,993,224	--	23,323
Drury Drainage District, IL	1964	1,144,875	--	--
Dubuque, IA	1974	10,861,170	--	145,415
East Liverpool Drainage and Levee District, IL	1941	207,826	--	--
East Moline, IL	1984	9,692,097	--	--
East Peoria Drainage and Levee District, IL	1946	279,963	--	--
Elkport, IA	1951	34,200	--	--
Evansdale, IA	1983	4,409,088	--	--
Fabius River Drainage District, MO	1941	60,500	--	--
Fabius River Drainage District, MO	1963	1,621,841	--	--
Farm Creek, IL	1997	9,859,020	5,839,362	--
Farmers Levee and Drainage District, IL	1942	155,562	--	--
Fulton, IL	1984	18,017,200	--	--
Galena, IL	1952	844,100	--	118,000
Green Bay Levee and Drainage District No. 2, IA	1949	299,000	--	--
Green Bay Levee and Drainage District No. 2, IA	1967	1,727,711	--	--
Gregory Drainage District, MO	1940	77,100	--	--
Gregory Drainage District, MO	1972	1,538,963	--	20,626
Hannibal, MO	1993	6,082,733	--	600,000
Henderson County Drainage District No. 1, IL	1968	1,453,217	--	--
Henderson County Drainage District No. 2, IL	1968	1,043,902	--	--
Henderson County Drainage District No. 3, IL	1949	42,700	--	--
Hennepin Drainage and Levee District, IL	1940	109,593	--	--
Hunt Drainage District and Lima Lake Drainage District, IL	1972	4,772,498	--	--
Indian Grave Drainage District, IL	1972	3,551,961	--	--
Iowa River-Flint Creek Levee District No. 16, IA	1972	6,044,693	--	--
Kishwaukee River at DeKalb, IL ¹	1957	123,300	--	--
Lacey Langellier, West Mantanzas and Kerton Valley Drainage and Levee District, IL	1954	1,290,000	--	--
Liverpool Drainage and Levee District, IL	1943	117,731	--	--
Lost Creek Drainage and Levee District, IL	1938	152,000	--	--
Marengo, IA ¹	1981	2,447,001	--	--
Marion County Drainage District, MO	1967	873,748	--	--
Marshalltown, IA	1978	8,437,511	--	252,136
Mason and Menard Drainage District, IL	1940	93,808	--	--
Meredosia Levee and Drainage District, IL ¹	1977	1,995,322	--	269,739
Milan, IL	1988	13,437,663	--	213,554

TABLE 15-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS
(Continued) (See Section 15 of Text)

Project	For Last Full Report See Annual Report For	Construction	Cost To September 30, 2003	
			Operation and Maintenance	Contributed Funds Expended
Muscatine, Mad Creek, IA ¹	1983	1,129,800	--	305,747
Muscatine Island Levee District and Muscatine-Louisa County Drainage District No. 13, IA	1970	3,293,276	--	220,000
Near Springfield on Sangamon River, IL	1941	--	--	--
Oakford Special Drainage District, IL	1940	38,417	--	--
Okabena Creek at Worthington, MN ¹	1957	72,432	--	--
Ottumwa, IA	1977	233,145	--	--
Pekin and La Marsh Drainage and Levee District, IL	1955	158,383	--	--
Penny Slough, Rock River, IL	1940	85,800	--	--
Rock Island, IL	1979	7,582,373	--	--
Rockford, IL	1989	10,032,496	--	514,188
Rocky Ford Drainage and Levee District, IL	1941	108,797	--	--
Sabula, IA	1958	411,915	--	--
Sangamon River (Mouth), IL	1980	1,048,990	272,848	15,122
Seahorn Drainage and Levee District, IL	1945	32,281	--	--
Sid Simpson Project, IL	1968	5,789,800	--	--
Sny Basin, IL	1972	14,003,560	--	--
Sny Island Levee Drainage District, IL	1942	61,400	--	--
Sny Island Levee Drainage District, IL	1968	4,956,749	--	--
South Beardstown and Valley Drainage and Levee District, IL	1942	220,729	--	--
South Beardstown Drainage and Levee District, IL	1942	171,839	--	--
South Quincy Drainage and Levee District, IL	1940	61,200	--	--
South Quincy Drainage and Levee District, IL	1968	1,231,243	--	--
South Quincy Drainage and Levee District, IL	1991	7,066,437	--	2,355,479
South River Drainage District, MO	1941	55,300	--	--
South River Drainage District, MO	1966	1,106,056	--	--
Spring Lake Drainage and Levee District, IL	1941	185,980	--	--
Subdistrict No. 1 of Drainage Union No. 1 and Bay Island Drainage and Levee District No. 1, IL	1967	3,306,695	--	--
Union Township Drainage District, MO	1947	116,576	--	--
Van Meter, IA ¹	1965	113,842	--	--
Waterloo, IA	1987	48,620,099	--	83,300
Waterloo Bridges, IA	1991	1,125,000	--	1,108,787
Authorized Projects Not Constructed				
Ames Dam and Reservoir, Skunk River, IA	1987	1,400,800	--	--
Davenport, IA	1987	--	--	--
Moline, IL ²	1987	--	--	--
Peoria, IL	1973	534,580	--	--

1. Authorized by Chief of Engineers (Sec. 205, 1948 Flood Control Act).

2. FY 89 funds of \$5,639 were expended to close out project.

TABLE 15-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date Deauthorized	Federal Funds Expended	Contributed Funds Expended
Cal.-Sag Channel, Part II Illinois Waterway, IL and IN	1986	1986	--	--
Campbells Island Mississippi River, IL	1969	1979	\$76,664	--
Carroll County Levee and Drainage District, IL	1938	1977	--	--
Central City Lake, Wapsipinicon River, IA	1970	1977	55,664	--
Farmers Drainage and Levee District (Sangamon River), IL	1942	1986	--	--
Green Island Levee and Drainage District, IA	1938	1977	--	--
Henderson River, IL	1964	1977	102,310	--
Illinois Waterway, IL and IN Duplicate Locks	1982	1981	--	--
Illinois Waterway Navigation Project (Pekin, IL)	1986	1986	--	--
Janesville and Indian Ford Dams, WI	1938	1977	--	--
Keithsburg Drainage District, IL	1938	1977	--	--
Pecatonica River at Darlington, WI	--	1977	--	--
Rochester Lake, Cedar River, IA	--	1977	--	--
Rock River Agricultural Levees, IL	1984	1999	858,000	--
South Beloit, IL	1979	1986	270,000	--
William L. Springer Lake Decatur, IL	1979	1986	--	--
Illinois Waterway, Marseilles Canal, IL	1989	1990	--	--
Peoria Levees, IL	--	1990	--	--
Savanna Small Boat Harbor	--	1999	--	--

TABLE 15-H
INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS
(See Section 14 of Text)

Project	Date Inspected
Alpine Dam and Page Park Dam, Rockford, IL	December 2002
Amana Remedial Works	November 2002
Andalusia	December 2002
Avon Lake	July 2002
Banner Special Drainage and Levee District, IL	December 2002
Bay Island Drainage and Levee District, IL	November 2002
Bettendorf, IA	November 2002
Big Lake Drainage and Levee District, IL	December 2002
Burlington, IA	December 2002
Canton, MO	November 2002
Carlisle	July 2002
Cedar Falls, LF PP	November 2002
Chandlerville, Village of	October 2003
City of Streator Municipal Levee	December 2002
Clear Lake D & LD	January 2003
Clinton, IA	November 2002
Coal Creek Drainage and Levee District, IL	December 2003
Crane Creek Drainage and Levee District, IL	December 2002
DeKalb, IL	November 2002
Des Moines, IA	November 2002
Des Moines and Mississippi Levee District No. 1, MO	November 2002
Des Moines County DD7, IA	November 2002
Des Moines County DD8, IA	November 2002
Drury Drainage District, IL	November 2002
Dubuque, IA	November 2002
East Dubuque	March 2002
East Liverpool Drainage and Levee District, IL	December 2002
East Moline, IL	November 2002
East Peoria Drainage and Levee District, IL	December 2002
East Peoria Sanitary District, IL	February 2003
Elkader	April 2003
Elkport, IA	November 2002
Evansdale, IA	November 2002
Fabius River Drainage District, MO	November 2002
Farmers Drainage and Levee District, IL	December 2002
Fulton, IL	November 2002
Galena, IL	November 2002
Greater Peoria Sanitary District	October 2003
Green Bay Levee and Drainage District No. 2, IA	December 2002
Gregory Drainage District, MO	November 2002
Hannibal, MO	November 2002
Henderson County Drainage District No. 1, IL	December 2002
Henderson County Drainage District No. 2, IL	December 2002
Herget Drainage and Levee District, IL	December 2002
Hunt Drainage District & Lima Lake Drainage District, IL	November 2002
Indian Grave Drainage District, IL	November 2002
Iowa River-Flint Creek Levee District No. 16, IA	November 2002
Jackson, MN West Fork DM River	October 2002
Kent Creek LFP	December 2002
Keokuk Levee	November 2002

**TABLE 15-H
(Continued)**

**INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS
(See Section 14 of Text)**

Project	Date Inspected
Kerton Valley Drainage and Levee District, IL	December 2002
Lacey Drainage and Levee District, IL	December 2002
Langellier Drainage and Levee District, IL	December 2002
Levings Lake Dam, IL	December 2002
Lima DD, IL	November 2002
Liverpool Drainage and Levee District, IL	December 2002
Lost Creek Drainage and Levee District, IL	December 2002
Louisa County LD No. 11	December 2002
Lower Pleasant Valley D & LD	January 2003
Mackinaw River & DD No. 1	December 2002
Mad Creek, Muscatine, IA	November 2002
Marengo, IA	November 2002
Marion County Drainage District, MO	December 2002
Marshalltown, IA	November 2002
Mason and Manard D & LD	December 2002
Meredosia Levee and Drainage District, IL	November 2002
Milan, IL	November 2002
Mississippi – Fox DD	November 2002
Morrissey Levee	October 2003
Muscatine Island LD & D	November 2002
Oakford Special Drainage and Levee District, IL	December 2002
Oelwein	November 2002
Ottawa Township H.S. Levee	November 2002
Ottumwa/Des Moines River	October 2002
Page Park Dam, IL	December 2002
Pekin-LaMarsh Drainage and Levee District, IL	December 2002
Penny Slough Drainage and Levee District, IL	November 2002
Rock Island, IL	November 2002
Sabula, IA	November 2002
Sanitary District of Beardstown, IL	December 2002
Seahorn Drainage and Levee District, IL	October 2002
SE Des Moines/SE Pleasant Hill	July 2002
Sny Island Levee Drainage District, IL	November 2002
South Beardstown Drainage and Levee District, IL	December 2002
South Branch Diversion Channel	December 2002
South Quincy Drainage and Levee District, IL	November 2002
South River Drainage District, MO	November 2002
Spoon River No. 1	January 2003
Spoon River Ranch & Roddis	December 2002
Spring Lake Drainage and Levee District, IL	December 2002
Subdistrict No. 1 of Drainage District Union No. 1 and Bay Island Levee and Drainage District No. 1, IL	November 2002
Tama, IA	November 2002
Thompson D & LD	December 2002
Union Township D & LD	November 2002
Union TWP (Skunk)	December 2003
Valley Drainage and Levee District, IL	December 2002
Van Meter, IA	October 2003
Volga, IA	November 2002

TABLE 15-H
(Continued)

INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS
(See Section 14 of Text)

Project	Date Inspected
Waterloo, IA	November 2002
West Des Moines RR/WC	October 2003
West Matanzas Drainage and Levee District, IL	December 2002
Zempel Mutual DD	December 2002
Zuma-Canoe Special	November 2002

TABLE 15-I
FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Project	Fiscal Year Costs		Total
	Federal Cost	Non-Federal	
Navigation (Section 107, 1960 Act & Mods) (216)			
Coordination Account Section 107 - 062216	\$ 5,307		\$ 5,307
Total	\$5,307		\$5,307
Flood Control (Section 205, 1948 Flood Control Act, P. L. 858) (516)			
Austin, MN – 170435	\$11,082		\$11,082
Cascade, IA – 179047	17,320		17,320
Cedar river, Cedar Falls, IA – 091526	13,035	(4,015)	9,020
Coordination Account Section 205 – 062516	25,087		25,087
Dyersville, IA – 179046	31,799		31,799
East Peoria, IL – 091606	125,389	0	125,389
Indian Creek, Cedar Rapids, IA – 181244	5,744		5,744
Mad Creek, Muscatine, IA – 150096	233,884	4,537	238,421
Manchester, IA – 176996	34,099		34,099
Monticello, IA – 180456	20,978		20,978
Raccoon River, Des Moines, IA – 091242	(9,953)	9,953	0
Savanna, IL – 172793	7,721		7,721
Waverly, IA – 176863	30,645		30,645
Wind Lake Watershed Racine County, WI – 167362	13,704		13,704
Total	\$560,534	\$10,475	\$571,009
Emergency Bank Protection (Section 14 of 1946 Flood Control Act, P.L. 526) (517)			
Coats Sewage Lagoon, Des Moines, IA – 160224	\$136,755	\$50,761	\$187,517
Coordination Account Section 14 – 062517	15,252		15,252
Farm Creek, Cty of Wash., Tazewell – 170066	5,000		5,000
Highway 52, Bellevue, IA – 161360	(7,829)	12,438	4,609
Rock River Highway 64, IL – 167360	36,541		36,541
Sac & Fox Settlement, Tama, IA – 167361	22,105		22,105
State Route A, Scotland Co, MO - 163318	(100)	4,096	3,996
Total	\$207,724	\$67,295	\$275,019
Snagging and Clearing (Section 208, 1954 Flood Control Act, P.L. 780) (518)			
Coordination Account Section 208 – 163815	\$ 14,953		\$ 14,953
Little Maquoketa River, Dubuque County – 181966	9,452		9,452
Total	\$ 24,405		\$ 24,405
SUBTOTAL	\$797,970	\$77,770	\$875,740

**TABLE 15-I
(Continued)**

FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Project	Fiscal Year Costs		Total
	Federal Cost	Non-Federal	
Project Modification to Improve Environment (Section 1135 P.L. 99-662) (722)			
Big Creek Lake Sp9illway Mod – 175183	\$15,913		\$15,913
Coordination Account Section 1135 – 062092	9,983		9,983
Emiquon Floodplain Rest., IL – 171808	2,751		2,751
Lock & Dam 18 Fish Passage – 170151	11		11
Mill Creek/Milan Bottoms Habitat – 162936	349	17,180	17,529
Nahant Marsh Mississippi River – 167510	29		29
Oquawka Refuge Habitat – 096182	0	6,027	6,027
Total	\$29,036	\$23,207	\$52,243
Aquatic Ecosystem Restoration (Section 206, P.L. 104-303) (732)			
Clear Lake, IA – 180778	\$4,334		\$4,334
Coordination Account Section 206 – 062091	9,386		9,386
Duck Creek/Fairmount Pk Wetland Rest – 167364	71,907		71,907
Freeborn County Ecosystem Restoration – 173832	5,907		5,907
Iowa River and Clear Creek, IA – 167430	103,034		103,034
Jackson Fish Passage – 170150	27,594		27,594
Kankakee River, IL – 167429	156,906		156,906
Kettle Moraine Wet Prairie Restoration – 179358	6,522		6,522
Koshkonong Creek, WI – 164649	67,461		67,461
Lake Belle View – 164774	223,754		223,754
Lake Koshkonong – 167368	93,338		93,338
Preliminary Restoration Section 206 – 062732	560		560
Spring Lake, Palmyra, WI – 167827	5		5
Token Creek Habitat, WI – 164249	82,134		82,134
Whitebreast Watershed – 162937	15,176		15,176
Windom Fish Passage, MN – 179052	7,091		7,091
Total	\$875,109		\$875,109
Wetland/Other Aquatic Habitat (Section 204, 1992 Flood Control Act, P.L. 102-560) (792)			
Blackhawk Bottoms Mississippi River – 169021	\$ 311		\$ 311
Coordination Account Section 204 – 163816	10,016		10,016
Henderson #3 Habitat Restoration – 170149	32		32
Total	\$10,359		\$10,359
SUBTOTAL	\$ 914,504	\$ 23,207	\$ 937,711
TOTAL	\$1,712,474	\$100,977	\$1,813,451

TABLE 15-J

**ILLINOIS WATERWAY:
EXISTING LOCKS AND DAMS
(See Section 2 of Text)**

Lock	Miles Above Mouth	Miles to Nearest Town	<u>Dimensions</u>		Miter Sills Lift at Low Water ¹ (feet)	<u>Depth on at Low Water</u>	
			Width of Chamber (feet)	Available Length for Full Width (feet)		Lower (feet)	Upper (feet)
LaGrange Lock	80.2	7.8 below Beardstown, IL	110	600	10.0	13.0	15.5
Peoria Lock	157.7	4.1 below Peoria, IL	110	600	11.0	12.0	15.5
Starved Rock Lock	231.0	Utica, IL	110	600	18.5	14.0	16.8
Marseilles Lock	244.6	Marseilles, IL	110	600	24.45	14.0	18.6
Dresden Island Lock	271.5	8 above Morris, IL	110	600	21.75	12.25	16.85
Brandon Road Lock	286.0	Joliet, IL	110	600	34.0	13.8	17.85
Lockport Lock	291.1	Lockport, IL	110	600	30.5-39.5 ²	15.0	11.0-20.2 ²
T.J. O'Brien Lock	326.5	Chicago, IL	110	1,000	--	14.0	14.0

1. Lifts and depth on miter sills are those obtained with flat pools.

2. Variation in lift and depth on upper miter sill at Lockport is due to fluctuation of water surface in the sanitary district canal.

**TABLE 15-K ILLINOIS WATERWAY, IL AND IN
LOCK AND DAM CONSTRUCTION, FOUNDATIONS, COST
(See Section 2 of Text)**

Name	Lock		Dam			Federal Cost	
	Type of Construction	Character of Foundation	Kind	Type of Construction	Character of Foundation	Year Complete	Estimated Under Existing Project
Illinois River, mouth to Utica; channel improvement by dredging in Illinois River below Starved Rock modification of two U.S. locks and dams, and removal of two State dams.	--	--	--	--	--	--	\$2,733,499 ¹
LaGrange	Concrete	Piles in sand	Movable (wicket with A-frame-crest)	Concrete and timber	Piles in sand	1939	\$ 2,744,592 ¹
Peoria	Concrete	Piles in sand	Movable (wicket type)	Concrete and timber	Piles in sand	1939	3,381,030 ¹
Starved Rock	Concrete	Rock	Movable (tainter gates)	Concrete and structural steel	Rock	1933	885,315 ¹
Marseilles	Concrete	Rock	Movable (tainter gates)	Concrete and structural steel	Rock	1933	1,853,725 ¹
Dresden Island	Concrete	Rock	Movable (tainter gates)	Concrete and structural steel	Rock	1933	2,503,376 ¹
Brandon Road	Concrete	Rock	Movable (tainter gates)	Concrete and structural steel	Rock	1933	2,031,683 ¹
Lockport	Concrete	Rock	Movable (Bear trap) (Bear trap)	Concrete and structural steel	Rock	1933	133,608 ¹
T.J. O'Brien	Concrete and sheet piling	Piles in clay	Fixed	Concrete and sheet piling	Piles in clay	1960	6,954,700 ¹

**TABLE 15-K ILLINOIS WATERWAY, IL AND IN
(Continued) LOCK AND DAM CONSTRUCTION, FOUNDATIONS, COST
(See Section 2 of Text)**

Name	Lock		Dam			Estimated Federal Cost	
	Type of Construction	Character of Foundation	Kind	Type of Construction	Character of Foundation	Year Complete	Under Existing Project
Lock and dam equipment	--	--	--	--	--	--	1,250,304 ¹
Total locks and dams	--	--	--	--	--	--	\$ 24,471,832

1. Actual cost.

**TABLE 15-L ILLINOIS WATERWAY, IL AND IN
ADDITIONAL FEATURES ENTERING INTO COST
(See Section 2 of Text)**

Dredging:	
Little Calumet and Calumet Rivers	\$ 2,135,358 ¹
Calumet-Sag, 3 passing places	813,318 ¹
Starved Rock to Lockport	6,007,335
Starved Rock to Grafton	2,917,607
Calumet-Sag Channel	19,238,200
Peoria small boat harbor	24,937 ¹
Protection piers at all locks	77,613 ¹
Calumet-Sag modification engineering and design	5,141,474
Calumet-Sag modification, supervision and administration	5,466,804
Rebuild highway bridges	19,327,850
Rebuild railway bridges:	
Calumet-Sag Channel	20,828,435 ¹
Little Calumet and Calumet Rivers	18,362,041 ¹
Recreation Facilities, Code 711	445,000
Removal of Blue Island lock	288,600 ¹
Grand Calumet River controlling works ²	
St. Louis District	1,081,600 ¹
Total additional features	\$100,442,142
Total existing project	\$124,913,974

1. Actual cost.

2. Placed in inactive status November 19, 1974.

TABLE 15-M EXISTING PROJECT

See Section in Text	Project	Item	Length (feet)	Width (feet)	Depth (feet)
2.	Illinois Waterway, IL and IN	Nine locks and six dams	--	--	--
		Grafton to Lockport, IL	291.1 miles	300	9
		Lockport to controlling works	2.0 miles	200-300	9
		Controlling works to junction with Calumet-Sag Channel	10.0 miles	225	9
		Calumet-Sag Channel to lock in Blue Island	16.0 miles	225	9
		Calumet and Little Calumet Channel, from Blue Island to turning basin 5	7.7 miles	300	9
		Grand Calumet River Channel from junction with Little Calumet River to and in Indiana Harbor Canal to 141st, East Chicago, IN	9.0 miles	9	--
		Also, Grand Calumet River Channel from junction of Indiana Harbor Canal and Grand Calumet River to Clark St. in Gary, IN, with a turning basin at Clark St.	4.2 miles	160	9
		A channel in Chicago Sanitary and Ship Canal and South Branch Chicago River from Sag-Junction to Lake St. in Chicago, IL	22.1 miles	175-300	9

**TABLE 15-N ILLINOIS WATERWAY, IL AND IN
TOTAL COST OF EXISTING PROJECT
TO SEPTEMBER 30, 2003
(See Section 2 of Text)**

	New Work	Maintenance	Rehabilitation	Total
Regular Funds	\$120,886,748	\$534,969,331	\$155,466,400	\$690,435,731
Public Works Funds	3,960,735	--	--	3,960,735
Emergency Relief Funds	1,858,936	--	--	1,858,936
Total	\$126,706,419	\$534,969,331	\$155,466,400	\$696,255,402

1. Includes \$1,735,890 expended between 1927 and 1936 on the operation and care of the works of improvement under the provisions of the permanent indefinite appropriation for such purposes.

**TABLE 15-O ACTIVE GENERAL INVESTIGATIONS
(96X3121)**

Item and CWIS Number	FISCAL YEAR COSTS		
	Federal Cost	Non-Federal	Total
SURVEYS (Category 100)			
<u>Navigation Studies (110)</u>			
Hannibal, MO – 013781	\$ 437		\$ 437
Total	\$ 437		\$ 437
<u>Flood Damage Prevention (120)</u>			
DesMoines & Racoon River, IA – 013490	\$ 219,889	305,253	\$525,142
Illinois River at Beardstown, IL – 014400	51,920		51,920
Keith Creek, Rockford, IL – 013840	42,308		42,308
Lower Des Moines, IA & MO – 081383	47,550		47,550
Total	\$ 361,667	\$305,253	\$666,920
<u>Special Studies (140)</u>			
Fort Dodge, IA – 013763	\$ 25,249		\$ 25,249
Illinois River Basin Restoration – 013818	954,855	332,555	1,287,410
Illinois River Ecosystem Restoration – 014293	358,911	287,825	646,736
Peoria Riverfront Development, IL – 013410	14,846	12,869	27,715
Rock River, IL & WI – 012949	147,316	152,321	299,637
Upper Miss. River Flow Freq Study – 013414	1,000,360		1,000,360
Total	\$2,501,537	\$785,570	\$3,287,107
<u>Watershed/Comprehensive Studies (150)</u>			
Upper Miss River Comprehensive Study – 010565	\$ 1,644,751		\$ 1,644,751
Total	\$ 1,644,751		\$ 1,644,751
<u>Review of Authorized Projects (160)</u>			
Fabius River Drainage District – 013334	\$ 98		\$ 98
Mississippi River Navigation Study – 010315	6152,177		6,152,177
Total	\$6,152,275		\$6,152,275
<u>Miscellaneous Activities (170)</u>			
Interagency Water Resources Dev. – 014713	\$ 24,967		\$ 24,967
N. American Waterfowl – 053904	1,907		1,907
Review of FERC Licenses – 053857	1,905		1,905
Special Investigations – 017250	30,174		30,174
Total	\$58,953		\$58,953
<u>Coordination Studies with other Agencies (180)</u>			
Cooperation w/other Water Agencies – 053907	\$14,015		\$14,015
Total	\$14,015		\$14,015
<u>Planning Assistance to States (180)</u>			
PAS Negotiation Funds – 014800	\$ 22,749		\$ 22,749
PAS-IA-Black Hawk Co. Hydraulic Analysis – 019008	921	75	996
PAS-IA-Bufferlo H&H Study – 019016	3,187	1,725	4,912
PAS-IA-Des Moines H&H Study – 019015	2,779	2,659	5,438
PAS-IA-Waterloo Hydraulics – 019012	11,281	4,745	16,026
PAS-IL-Lake Sinnissippi – 017025	8,770	7,074	15,844
PAS-IL-Pekin, IL – 017028	18,882	18,924	37,806
PAS-IL-Sunset Marina Study – 014001	883	883	1,766
PAS-IT-SAC Fox Tribe Surveying – 072002	43,375	44,770	88,145
Total	\$112,827	\$80,855	\$193,682
TOTAL (Category 100)	\$10,846,462	\$1,171,678	\$12,018,140

TABLE 15-O **ACTIVE GENERAL INVESTIGATIONS**
(Continued) **(96X3121)**

Item and CWIS Number	FISCAL YEAR COSTS		
	Federal Cost	Non-Federal	Total
COLLECTION AND STUDY OF BASIC DATA (Category 200)			
<u>Floodplain Management Services (250)</u>			
Flood Plain Mgmt Services – 082030	\$ 29,149		\$ 29,149
Technical Services – 082040	54,979		54,979
Quick Responses – 082045	11,051		11,051
SS Hannibal, MO – 083187	36,712		36,712
SS-Little Maquoketa River, IA – 083433	7,268		7,268
Total	\$139,159		\$139,159
<u>Hydrologic Studies (260)</u>			
General Hydrologic Studies – 053820	\$31,995		\$31,995
Total	\$31,995		\$31,995
TOTAL (Category 200)	\$171,154		\$171,154
GRAND TOTAL GENERAL INVESTIGATIONS	\$11,017,616	\$1,171,678	\$12,189,294
(NON REIMBURSABLE)			

ST. PAUL, MN, DISTRICT

District comprises western Wisconsin, major portion of Minnesota, northern and eastern North Dakota, and small portions of northeastern South Dakota and northern and northeastern Iowa embracing drainage basins of Mississippi River and tributaries from its source to mile 614 above mouth of Ohio River;

Red River of the North and tributaries; those streams north of Missouri River Basin in North Dakota; and U.S. waters of Lake of the Woods and its tributaries. That section of Mississippi River above mile 614 is included in report on Mississippi River between Missouri River and Minneapolis, Minnesota.

IMPROVEMENTS

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Navigation

1. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN

For report on this improvement see chapter on Mississippi River between Missouri River and Minneapolis, Minnesota.

2. RESERVOIRS AT HEADWATERS OF MISSISSIPPI RIVER, MN

Location. Reservoirs are on the Mississippi River and several of its tributaries in Itasca, Beltrami, Hubbard, Aitkin, Cass and Crow Wing Counties, MN. (See Table 16-H on reservoirs.)

Previous projects. For details see page 1888 of Annual Report for 1915, and page 1098 of Annual Report for 1938.

Existing project. Provides for reconstruction from timber to concrete at Winnibigoshish, Leech Lake, Pokegama, Sandy Lake and Pine River Dams, and construction of a concrete dam at Gull Lake. Pokegama was built on bedrock and the others on pile foundations. A portion of Leech Lake Dam from piers 26 to 39 was replaced with an earth fill. Constructed three dikes at Winnibigoshish, four at Pokegama, two at Sandy Lake, and 16 at Pine River. Sandy Lake Dam includes a lock 160 feet long, 30 feet wide, with a maximum lift of 9.5 feet and a depth of 2.5 feet on lower sill at low water which was converted to use as a spillway. (See Table 16-B for authorizing legislation.) The Pine River Dam main embankment consists of a timber diaphragm core and earth fill. The Pine River Dam control structure is made of reinforced concrete with a steel sheet pile cutoff and is supported on a timber substructure. Pine River Dam was modified during the period 1999-2002 to pass 70% of the Probable Maximum Flood. During this period, the 13 gate openings were enlarged and outfitted with new gates; the wing walls were modified; the existing dam and embankment was raised via addition of a parapet wall and a concrete-capped sheet pile wall, to provide 5 ft. of freeboard over the design flood; the foundation was grouted to stop seepage and fill voids; and the perimeter dikes were improved. Total

Federal cost to the United States for new Dam Safety Assurance work at the Pine River Dam is \$11,053,800.

Local cooperation. Fully complied with.

Terminal facilities. None.

Operation and results during fiscal year. Reservoirs were operated as required, recreation facilities and equipment maintained, and surveys, repairs, reports and data collection cost \$4,587,113 Federal and \$48,646 non-Federal. Dam Safety: Engineering and design for dam safety modifications at Pine River Dam cost \$137,137 Federal.

Condition at end of fiscal year. Existing project was completed in 1937. Flowage rights were acquired on all lands affected by construction, maintenance, and operation of reservoirs. A total of 1,672.26 acres in fee are owned by the United States. The United States has easements, flowage rights, and other rights of use on another 296,334.44 acres. Structures are in fair condition. Recreation facilities for public use are being constructed intermittently at all reservoir areas. (See Table 16-H for capacities and costs by reservoir.) Pine River Dam has been classified as a high hazard dam under the National Dam Safety Program due to inadequate spillway capacity which could lead to dam failure during a flood event. Construction of dam safety modifications is currently underway.

3. UPPER MISSISSIPPI RIVER SYSTEM ENVIRONMENTAL MANAGEMENT PROGRAM (UMRS-EMP)

Location. The program is authorized for the commercially navigable portions of the Upper Mississippi River System. In the St. Paul District, this includes the Mississippi, Minnesota, Black, and St. Croix Rivers in the states of Minnesota, Wisconsin and Iowa.

Existing project. The purpose of the UMRS-EMP as stated in the authorizing legislation is to ensure the coordinated development and enhancement of the Upper Mississippi River System, recognizing its several purposes. It is intended to protect and/or enhance the river resources and guide future river management. The primary emphasis of the program is on habitat rehabilitation and enhancement projects. Long term

resource monitoring will provide the means for more informed management of the UMRS. Also authorized, was a study of the economic impacts of recreation (completed), navigation traffic monitoring (continuing under other authority), and recreation projects (unfunded). The program was initiated by WRDA in 1986 and the 1999 WRDA extended the EMP on a continuing basis. The execution of the program is closely coordinated with the Upper Mississippi River Basin Association, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the three affected states in the St. Paul District. See Rock Island District Tables 15-A and 15-B for total program costs and authorizing legislation.

In the St. Paul District, twenty-one habitat projects have been completed. These are the Guttenberg Waterfowl Ponds (IA), Island 42 (MN), Lake Onalaska (WI), Blackhawk Park (WI), Pool 8 Islands Phases I and II (WI), Indian Slough (WI), Finger Lakes (MN), Lansing Big Lake (IA), Cold Springs (WI), Pool 9 Island (WI), Spring Lake Peninsula (WI), Bussey Lake (IA), Peterson Lake (MN), Polander Lake (MN), East Channel (WI/MN), Rice Lake (MN), Small Scale Drawdown (WI), Trempealeau (WI), Bank Stabilization (IA, WI, MN), and Long Lake (WI). Most of the projects are operated and maintained by the U.S. Fish and Wildlife Service. However, projects not located on lands managed as a national wildlife refuge are maintained by the applicable state department of natural resources. Through FY 2003, funds expended by the St. Paul District have amounted to \$37,897,000 for planning, design, construction and monitoring of habitat rehabilitation and enhancement projects; \$955,000 for long term resource monitoring; \$768,000 for economic impacts of recreation study; and \$2,774,000 for program management. The annual authorized funding level for the overall program is about \$34 million.

Local cooperation. Local cooperation agreements are obtained for habitat project features not located on lands managed as a national wildlife refuge, as specified in Section 906(e) of the 1986 WRDA.

Operations and results during fiscal year. In the St. Paul District, costs during the year totaled \$1,529,791 Federal and \$154,800 non-Federal. The majority of funds were expended on the planning, design, construction and monitoring of habitat projects. Design was continued on six projects. Construction was completed on two stages of one project (Ambrough Slough) and on the rehabilitation of one other project (Long Lake).

4. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Sec. 107, Public Law 87-645, as amended.

In FY 02, \$10,069 was expended on Section 107 Coordination Account; \$6,749 on East Two River, Tower, MN.

Flood Control

6. BRECKENRIDGE, MN

Location. Breckenridge, Minnesota, is located in Wilkin County in western Minnesota, approximately 200 miles north and west of the Minneapolis-St. Paul metropolitan area. The city is bounded on the west by the Red River of the North and the Bois de Sioux River. The Ottertail River flows from the east, bisecting the city. The city of Wahpeton, ND, lies across the Red River from Breckenridge.

Existing project. A feasibility study recommended implementation of a flood damage reduction project consisting of a high-flow diversion channel located to the north of the Ottertail River and entering into the Red River and two separable permanent levee reaches that would protect all of Breckenridge. The project is authorized by Section 205 of the 1948 Flood Control Act, as amended. Section 205 authorizes construction of small projects for flood control and related purposes not specifically authorized by Congress. Projects recommended for construction under Section 205 must be economically justified and limited to a federal cost of \$7 million. However, WRDA 2000 specifically authorized this project and it was transitioned from a small project to a specific project in FY 02.

Local cooperation. A Feasibility Cost Sharing Agreement was executed between the Federal Government and the city of Breckenridge on June 29, 1999. This agreement required the city to provide 50 percent of the costs of performing the feasibility study. A Project Cooperation Agreement, negotiated between the Federal Government and the city was signed on 15 August 2002.

Operations and results during fiscal year. The plans and specifications for the first stage of construction were finalized. Construction was initiated for the Stage 1, Diversion Channel. Total FY 03 Federal costs were \$1,631,054 and Non-Federal \$227,040.

Condition at end of fiscal year. During the first stage of construction, two highway bridges were significantly complete. Approximately 20% completion of construction was accomplished for Stage 1.

6. BROOKLYN CENTER SEWER LINE, MISSISSIPPI RIVER, MN

Location. Along the right bank of the Mississippi River, Hennepin County, about 5 miles north of Minneapolis, Minnesota.

Existing Project. The emergency streambank protection project on the Mississippi River involves approximately 750 feet of riverbank. The project consists of rockfill toe protection and associated earthwork to protect an 18-inch sanitary sewer line. The project was approved by the Mississippi River Division for construction on 6 March 2002, under the authority contained in Section 14 of the 1946 Flood Control Act, as amended.

Local Cooperation. See Annual Report for 2002. A project Cooperation Agreement was executed between the Federal Government and the City of Brooklyn Center on 28 May 2002 complied with.

Operation and results during fiscal year. New Work: The Preparation plans and specifications is essentially complete. The City completed the acquisition of the lands easements and right-of-way in August 2003. Total FY 03 Federal Costs were \$42,319 and non-Federal, \$3,022.

Condition at the end of the fiscal year. The construction contract of the emergency streambank protection project will be awarded in early FY 04.

7. CHASKA, MN

Location. In Carver County in south-central Minnesota on the Minnesota River. (For general location, see Geological Survey map of Minnesota.)

Existing project. The plan of improvement consists of a levee and interior drainage works along the Minnesota River, flood diversion channels on Chaska Creek and East Creek, and appropriate flood-plain regulation measures. Principal project features include: approximately 1.1 miles of upgraded levee, 1.5 miles of new levee, and one pumping station on the Minnesota River; 1.1 miles of diversion channel on Chaska Creek; and 1.0 mile of diversion channel on East Creek. Approximately 2.9 miles of paved recreation trails on top of the levee and around Courthouse Lake are also included in the proposed

plan. Estimated Federal cost for new work is \$30,397,000 and \$12,558,000 is to be contributed by local interests. Project was authorized by the 1976 Water Resources Development Act. (H. Doc. 644, 94th Congress, 2d sess., contains latest published map.)

Local cooperation. See Annual Report for 1977 for requirements. A local cooperation agreement was executed on Sep. 12, 1988. The agreement included cost sharing provisions in accordance with the 1986 Water Resources Development Act.

Operations and results during fiscal year. Stage 3A construction (final stage) resulted in damage to an existing house. Repairs were completed this fiscal year. Total Federal costs were \$30,532 and non-Federal, \$-11,957.

Condition at end of fiscal year. Construction is complete. A project dedication was held on July 28, 1998.

8. CROOKSTON, MN

Location. In Polk County in northwest Minnesota, approximately 25 miles east of Grand Forks, North Dakota. It is located on the Red Lake River 52 miles upstream from its confluence with the Red River of the North at East Grand Forks.

Existing project. This flood reduction project was specially authorized by Congress via the Water Resources Development Act of 1999 and appropriations for the new start construction was provided in 2001 budget appropriations. The cost-shared feasibility report and environmental assessment that justified the Federal project was completed in 1997 and recommended a local flood protection project consisting of 2 downstream high-flow cutoff channels, and levees built to the 100-year level of protection for Thorndale, Woods and Downtown/Riverside neighborhoods. The recommended plan has a fully funded baseline cost estimate of \$9.5 million, and a benefit to cost ratio of 1.6. However, based on plans and specification efforts now done, the actual costs are now projected to increase to approximately \$10.5 million. Preconstruction engineering and design efforts began in 1998 and the plans and specifications for Stage I of the project construction were completed in October 2000. Construction began on Stage I in July 2001 and was completed in September 2002. The Stage II plans and specifications were completed in August 2001. Stage II construction began in August 2002 and is expected to be complete in May 2004.

Local cooperation. Negotiation of a Project Cooperation Agreement was completed and signed on Mar. 19, 2001. The non-Federal Sponsor will comply with the local cost sharing requirements of Water Resources Development Act of 1986, as amended.

Operations and results during fiscal year. New Work: Continued construction on Stage 2 features; cutoff channel #3, Summit Ave. road raise, and levee construction in the Wood's addition.

Condition at end of fiscal year. Construction on Stage I is 100 percent complete and 70% complete on Stage II.

9. GRAFTON, PARK RIVER, ND

Location. In Walsh County in northeastern North Dakota along the Park River where State Highway 81 and the Park River intersect about 340 miles northwest of Minneapolis-St. Paul, Minnesota.

Existing project. The recommended plan will provide flood protection for the city of Grafton; it consists of a 3-mile-long bypass channel just north of Grafton. The tieback levee will direct the flood flows to the inlet of the control structure. River flows that exceed 2,000 cubic feet per second (cfs) will be diverted through the proposed bypass channel. The project is estimated to cost \$31,600,000 with an estimated Federal cost of \$20,540,000 and an estimated non-Federal cost of \$11,060,000. Grafton was authorized for construction by WRDA 1986, deauthorized in 1991, and subsequently reauthorized by Section 364 of WRDA 1999.

Local cooperation. The city of Grafton is the local sponsor. In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, local interests will be required to provide lands, easements, rights-of-way, and borrow and excavated or dredged material or disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project; pay five percent of the costs allocated to flood control; contribute an additional amount in cash as necessary to bring the non-Federal shares of costs allocated to flood control to a minimum 35 percent; and bear all costs of operation, maintenance, and replacement of the flood control facilities.

Operations and results during fiscal year. New Work: Engineering associated with pre-engineering and design was accomplished at a Federal cost of \$174,678 and non-Federal costs of \$48,622.

Condition at end of fiscal year. Funds are being used to complete a General Reevaluation Report. The completion schedule for preconstruction engineering and design is April 2004 (PCA execution).

10. GRAND FORKS, NORTH DAKOTA AND EAST GRAND FORKS, MINNESOTA

Location. Grand Forks, North Dakota is located in Grand Forks County in eastern North Dakota about 70 miles south of the Canadian border. East Grand Forks, Minnesota is located at the outlet of the Red Lake River to the Red River of the North, immediately across the river from Grand Forks. (For General Location see Geological Survey map of either North Dakota or Minnesota.)

Existing project. Project was authorized by P.L. 105-277, Omnibus Appropriation Bill FY 99. Estimated cost (2003) of the entire flood damage reduction project is \$403,900,000, total cost to the United States is estimated at \$208,800,000 and total cost to the non-Federal sponsors (cities of Grand Forks and East Grand Forks) is estimated at \$195,100,000. The flood damage reduction project consists of a flood barrier around both communities providing protection against a flood equivalent to the peak discharge that occurred during the devastating flood of 1997 (136,900 cubic feet per second). A secondary purpose of recreation is also included in the authorized project.

Local cooperation. Project Cooperation Agreement was signed with both communities in January 2000. The non-Federal sponsors will comply with the local cost share requirements of Water Resources Development Act of 1986, as amended.

Operations and results during fiscal year. New Work: Total Federal construction costs for FY 03 were \$47,290,726 and non-Federal costs of \$10,033,354.

Condition at end of fiscal year. Construction is essentially complete on the Riverside Dam Bank Stabilization, removal of the Pedestrian Bridge, pump and generator supply contracts, Grand Forks Phase I Levees, and East Grand Forks Phase I Levees. The Grand Forks English Coulee Diversion and Pump Stations are nearing completion. The East Grand Forks Phase II Levees and Grand Forks Phase II Levees are midway through construction. The Phase III Levees for both cities are in the process of being advertised for construction as is the East Grand Forks Heartsville Coulee Diversion. The overall project is currently scheduled for completion in late 2005 or early 2006, subject to funding.

11. HOMME LAKE AND DAM, ND

Location. Dam is on South Branch of Park River about 4 miles upstream from Park River, ND, and 62.1 miles above mouth of Park River. South, Middle, and North Branches, headwater streams of Park River, rise in Cavalier County in northeastern North Dakota and flow easterly to an almost common confluence near Grafton, ND, forming main stream which flows easterly 35 miles to join Red River of the North about 35 miles south of the international boundary. (For general location, see Geological Survey map of North Dakota.)

Existing project. See Annual Report for 1962. Project was authorized as Park River Reservoir by 1944 Flood Control Act (S. Doc. 194, 78th Cong., 2d sess.), and redesignated Homme Reservoir and Dam by Public Law 435, 80th Congress, 2d session. Project restoration of wetland habitat conditions is taking place under the authority contained in Section 1135 of the 1986 Water Resources Development Act, as amended. Latest published maps are in project document. A reconnaissance report was completed in 1994 under the Dam Safety Assurance Program. The report recommended adding a new spillway to increase the dam's discharge capacity to the Probable Maximum flood level. Estimated cost (2003) to the United States for new Dam Safety Assurance work is \$11,600,000 and \$77,000 is to be contributed by local interests.

Local cooperation. Fully complied with. Total costs for all requirements of local cooperation under terms of project authorization, including required non-Federal contributions, were \$62,800. In addition, local interests contributed \$16,220 for construction of a water supply outlet through dam and incurred other costs of \$19,600. The North Dakota Game and Fish Department has agreed to serve as the non-Federal sponsor for the environmental improvement to the project.

According to current Dam Safety cost sharing guidance, the local sponsors are required to fund 15 percent of the dam safety improvement costs in the same proportion as the original construction was cost shared. The local sponsors would therefore pay for 4.5 percent of 15 percent or 0.68 percent of the dam safety costs. The North Dakota Office of the State Engineer has supported the proposed modifications identified in the Reconnaissance Report.

Operations and results during fiscal year. Maintenance: Structure was operated, maintained, inspected and evaluations were performed at a cost of \$160,794. Dam Safety: Total Federal costs of \$1,465,820 and non-Federal costs of \$10,469.

Condition at end of fiscal year. Project completed in June 1956 except for additional recreational facilities which have been done intermittently since that time. Construction began in April 1948 and major structures completed in May 1951. Structures are in good condition. Government has acquired 395 acres of land in fee and easements over 7.8 acres of land for project. An additional 6.3 acres of land have been donated for recreational development and 3.75 acres have been acquired due to bank erosion bordering the project. Construction of a habitat improvement project (under Section 1135 authority) was completed and the project was turned over to the local sponsor, the North Dakota Fish and Game Department. Homme Dam has been classified as a high hazard dam under the National Dam Safety Program due to inadequate spillway capacity which could lead to dam failure during a flood event. Engineering and design of dam safety modifications has been completed and construction of a new concrete spillway was completed in October 2003.

12. LA FARGE LAKE AND CHANNEL IMPROVEMENT, WI

Location. On the Kickapoo River which rises in Monroe County in southwestern Wisconsin and flows south and southwest through Vernon, Richland, and Crawford Counties emptying into Wisconsin River about 16 miles above junction of latter stream with Mississippi River. (For general location see Geological Survey map of Wisconsin.)

Existing project. See Annual Report for 1996 for flood control dam and impoundment project authorized by 1962 Flood Control Act. The Water Resources Development Act of 1996 (WRDA 96) authorized a modification to the original project to include transfer of approximately 8,569 acres of project lands to the State of Wisconsin and the Secretary of the Interior to be held in trust for the Ho-Chunk Nation. The Ho-Chunk Nation is to receive up to 1,200 acres of lands that are of cultural and religious significance. The modification also includes deauthorizing the construction of the reservoir and dam, while completing other features of the original project. Estimated Federal cost for work authorized by WRDA 96 is \$17,000,000.

Local cooperation. None required for construction of La Farge Lake. See Annual Report for 1967 for requirements for local protection works. A Project Cooperation Agreement is not required for the land transfer.

Operations and results during fiscal year. New Work: Work associated with WRDA 96 project was accomplished at a cost of \$4,830,093.

Condition at end of fiscal year. See Annual Report for 1996 for status of work authorized by 1962 Flood Control Act. The project was specifically deauthorized by Section 361(b)(7) of Public Law 104-303, Oct. 12, 1996, with the exception of named relocation and restoration features that remain authorized.

13. MARSHALL, MN

Location. In Lyon County in southwestern Minnesota along the Redwood River about 68 miles above its confluence with the Minnesota River at the city of Marshall, Minnesota. (For general location see Geological Survey map for Minnesota.)

Existing project. See page 1059 of Annual Report for 1964 for completed channel improvement project authorized by 1960 Flood Control Act. Federal costs amounted to \$1,802,866. The existing flood control project was completed in 1963. In response to a need for additional flood control, a feasibility study was completed in 1979. The project recommended in the feasibility report was authorized by the Water Resources Development Act of 1986, Public Law 99-662, Section 401(a) and reauthorized by the Water Resources Development Act of 1988, Public Law 100-676. Improvements include 4.7 miles of additional levees, 3.8 miles of bank protection, 0.3 mile of new high-flow diversion channel, an interbasin overflow structure, modifications to the existing diversion and drop structures, and a recreation plan. The project would provide protection against a flood having an occurrence interval of about once in 115 years. Estimated Federal cost (2000) for new work is \$7,850,000 and \$2,580,000 is to be contributed by local interests.

Local cooperation. Fully complied with for completed work. Project was transferred to local interests on Dec. 23, 1963.

For new work, see Annual Report for 1985 for requirements. A local cooperation agreement was executed on Sep. 9, 1996. The agreement included cost sharing provisions in accordance with the 1986 Water Resources Development Act.

Operations and results during fiscal year. New Work: Project financial close-out analysis was essentially completed. Federal costs were \$7,222, non-Federal \$1,000.

Condition at end of fiscal year. Construction of completed work was initiated August 1962 and com-

pleted December 1963. Construction of improvements to that work was completed in September 2000.

14. PORTAGE, WI

Location. In Columbia County in central Wisconsin along the Wisconsin River about 35 miles north of Madison, Wisconsin. (For general location see Geological Survey map for Wisconsin.)

Existing project. The project includes 1.2 miles of existing levee improvement; 1.6 miles of new levee; one highway and one railroad closure; cultural mitigation; and recreation features along the left bank of the Wisconsin river at Portage. The project would protect against a flood having an occurrence interval of about once in 100 years. Estimated Federal cost (2001) for new work is \$8,450,000 and \$2,950,000 is to be contributed by local interests. Project was authorized by the Water Resources Development Act of 1986 (Public Law 99-662).

Local cooperation. See Annual Report for 1989 for requirements. A Project Cooperation Agreement between the city of Portage and the Federal Government was executed in October 1996. The agreement included cost sharing provisions in accordance with the 1986 Water Resources Development Act.

Operations and results during fiscal year. New Work: A construction contract awarded in July 1997 is complete. Work awarded September 2 and completed in FY03 consisted of raising a railroad spur track and constructing a short reach levee to allow interbasin flow to Fox River, which will offset a project induced stage increase of .08 feet on the Wisconsin River. FY03 Federal costs were \$200,536, non-Federal \$711,320.

Condition at end of fiscal year. Construction of flood protection is complete.

15. SHEYENNE RIVER, ND

Location. The Sheyenne River Basin is included in 16 counties in the southeastern portion of North Dakota and drains an area of 7,140 square miles into the Red River of the North near Fargo, North Dakota. The principal area of flood damages in the basin is located at the lower end within Cass County and the city of West Fargo. (For general location, see Geological Survey map of North Dakota.)

Existing project. The project as authorized by the 1986 Water Resources Development Act consists of three major components for Federal implementation: 1) 11.9 miles of levee and a 6.7 mile flood diversion

channel at West Fargo; 2) 7.5 miles of flood diversion channel from Horace to West Fargo; and 3) a five-foot raise of the Baldhill Dam flood control pool. The Water Resources Development Act of 1986 stipulated that the project shall also include a dam and reservoir of approximately 35,000 acre-feet of storage for the purpose of flood protection on the Maple River. This component was deauthorized April 16, 2002. There are several items of local cooperation required to implement the plan, and several components identified for non-Federal implementation which would supplement the recommended plan. Estimated cost (2000) to the United States for new work is \$31,130,000 and \$12,470,000 is to be contributed by local interests.

Local cooperation. See Annual Report for 1988 for requirements. Project consists of three separable components each requiring a local cooperation agreement. The Southeast Cass Water Resource District is the local sponsor for the West Fargo Unit and the Horace to West Fargo Unit. The local cooperation agreement for the West Fargo Unit was executed on July 25, 1988 (amended on June 4, 2001), and for the Horace to West Fargo unit on Mar. 6, 1990. The Sheyenne River Joint Water Resource District is the local Sponsor for the Baldhill Pool Raise Unit. The local cooperation agreement for the Baldhill Pool Raise Unit was executed on May 31, 2000. The Maple River Reservoir Unit was deleted from the project.

Operations and results during fiscal year. New Work: Design was completed and construction was initiated and completed on the Stage 3 Wesley Acres contract. Construction for an additional pump station for the West Fargo component was completed. Total Federal costs were \$3,724,985 and non-Federal costs \$449,000.

Condition at end of fiscal year. Construction of the West Fargo Unit is essentially complete and construction of the Horace to West Fargo Unit is fully complete. Both of these units were operated during the spring and summer floods of 1993 and the spring floods in 1994, 1995, 1996, and 1997 and performed very well although some erosion damage was sustained on both projects. For the Baldhill Pool Raise Unit, contract for Stage 1, Gate Modifications, was completed; contract for Stage 2, Cabin Modifications, was completed; contract for the Mitigation Area was completed; construction for Stage 3, Wesley Acres Church Camp, was initiated; and preparation of a revised operating plan continued.

16. SOURIS RIVER BASIN, ND

Location. On the Souris River in Ward, Renville, McHenry, and Bottineau Counties in northwestern North Dakota. The existing Lake Darling Dam is located about 20 miles northwest of Minot, North Dakota. The project also includes features at the communities of Sawyer and Velva and at various locations along the 358-mile U.S. portion of the Souris River. (For general location see Geological Survey map of North Dakota.)

Existing project. The plan of improvement authorized by the Water Resources Development Act of 1986 is the one-time purchase of 377,800 acre-feet of flood storage in Rafferty and Alameda Dams in Saskatchewan, Canada and the operation of these dams with the existing Boundary Dam and Lake Darling Dam to provide 100-year flood protection at Minot, North Dakota. The Act also authorizes those flood control measures upstream and downstream of the dam which are necessary for effective operation of the project. The 4-foot raise of the Lake Darling design pool (authorized by Section III of the Energy and Water Development Appropriations Act, 1982, PL 97-88) and the construction of Burlington Dam (authorized by PL 91-611) was deauthorized March 10, 1995, with the completion of the structures in Canada. An International Agreement between Canada and the United States was signed in October 1989.

The work under the current plan authorized by PL 99-662, consists of two reservoirs in Saskatchewan, Canada (known as the Rafferty and Alameda projects); a modified outflow structure at Lake Darling Dam; a flood warning system for Minot; levee and channel improvements at Sawyer and six subdivisions from Burlington to Minot; levee and diversion channel at Renville County Park; flood proofing of about 90 rural homes in the basin and the purchase of flowage easements; modifications to dams 87 and 96 in the Upper Souris National Wildlife Refuge; and modifications to dams 320, 326, 332, 341, and 357 in the J. Clark Salyer National Wildlife Refuge. Estimated Federal cost for new work is \$109,260,000 and \$8,180,000 is to be contributed by local interests.

Local cooperation. See Annual Report for 1983 for requirements. Representatives of the water resource districts from Ward, Renville, McHenry, and Bottineau Counties area agreed to become members of a Souris River Joint Board for flood control, which would serve as local sponsor for the project. A local cooperation agreement for construction at Velva was signed in November 1984. A local cooperation agreement for the remainder of the project as authorized by the Water

Resources Development Act of 1986 was signed in October 1989.

Operations and results during fiscal year. New Work: Construction was completed on the final stage of work at Renville County Park. Total Federal costs were \$-94,500 and non-Federal \$-1,915. Maintenance: Total cost was \$274,147.

Condition at end of fiscal year. Construction of the channel and levee improvement work at Velva, Sawyer, Renville County Park and Burlington to Minot Stages 1, 2, and 3 is complete. Construction at Rafferty Dam and Alameda Dam is complete. Construction on rural improvements Stage 1 and Stage 2, road raises and acquisitions, is complete. Construction on improvements to Fish and Wildlife Service refuge dams is complete. Lake Darling Dam construction is complete. The project dedication ceremony was held on May 27, 1998.

17. WAHPETON, ND

Location. Wahpeton, ND, is located in Richland County in eastern North Dakota, approximately 55 miles south of Fargo, ND. The Red River of the North and the Bois de Sioux River bound the city on the east. The confluence of the Ottetail River with the Red River of the North is located at Wahpeton. The city of Breckenridge, MN, lies across the Red River of the North from Wahpeton.

Existing project. A feasibility study recommended implementation of a flood reduction project that consists of a permanent levee system protecting most of the city and a flood easement to keep the breakout flood flows from being blocked in the future. The project is authorized by Section 205 of the 1948 Flood Control Act, as amended. Section 205 authorizes construction of small projects for flood control and related purposes not specifically authorized by Congress. Projects recommended for construction under Section 205 must be economically justified and limited to a Federal cost of \$7 million.

Local cooperation. See Annual Report for 2001. The Project Cooperation Agreement was executed between the Federal Government and the city of Wahpeton on June 12, 2002.

Operations and results during fiscal year. Construction is continuing. Total FY 03 Federal costs were \$2,177,123 and non-Federal \$567,522.

Condition at end of fiscal year. Construction of the flood damage reduction project at Wahpeton, North Dakota is underway.

Environmental

18. MILLE LACS REGIONAL WASTEWATER, MN

Location: Project is located in the City of Garrison and the townships of Kathio and West Mille Lacs (GKWML). Existing development along the western shoreline of Mille Lacs Lake, one of the largest and most popular trophy fishing lakes in Minnesota, consists of a mixture of residential, commercial, and Mille Lacs Band of Ojibwe housing and casino structures. Most of the structures' wastewater is treated by individual unreliable septic systems.

Existing Project: The GKWML Sanitary District and the Mille Lacs Band entered into an agreement to design, construct, and operate a regional wastewater treatment project. The Band constructed a lift station at the northern edge of its reservation boundary. The Band has also completed construction of the Regional Sewage Treatment Plant. The GKVVNIL Sanitary District will construct a sanitary sewer line to collect and transfer wastewater within its jurisdiction to the Band's lift station for further transport to the Regional Treatment Plant. Currently, however, a concern has been raised by a MN state legislator over permitting of the Regional Treatment Plant. While the plant is complete it has not started treating wastewater due to the permit issues.

Local Cooperation: The estimated total cost of the GKWML portion of the project is \$16,500,000.00. Section 219 funds will be used to assist the Sanitary District in the construction of a \$1,600,000.00 "functional" portion of the GKWML project. Functional is defined as a portion of the Project that can be operated and maintained in advance of completion of the entire Project and can function independently and for a useful purpose, although the balance of the Project is not complete. A Section 219 Project Cooperation Agreement has been drafted and is awaiting definition of the functional project portion to be completed. Under Section 219 the PCA must be signed at USACE, and the Corps has design and construction responsibilities for the functional project portion.

Operations and results during the fiscal year. As appropriations for the Section 219 project were received after the Local Sponsor had entered into a contract with an AE firm, the Corps is coordinating with the AE to insure plans are completed for

advertisement and award by the Corps. Federal costs for FY 03 were \$21,697.

Condition at end of the fiscal year. Plans and specifications for the GKWML wastewater project are underway.

19. NORTHEASTERN, MN

Location. Northeastern Minnesota is defined as the Counties of Aitkin, Benton, Carlton, Cass, Chisago, Cook, Crow Wing, Isanti, Itasca, Kanabec, Koochiching, Lake, Mille Lacs, Morrison, Pine, St. Louis, and Sherbourne, Minnesota. Areas within the 17 counties essentially comprise Minnesota Congressional District 8.

Existing project. Federal Fiscal Year 2003 was the third year that funds were made available to implement the Section 569 program. Section 569 of the Water Resource Development Act of 1999 provided the Corps authority to assist Northeastern Minnesota communities with their environmental infrastructure projects. Ten projects were selected in FY 03 for implementation including Garrison/Kathio/West Mille Lacs (wastewater), Koochiching County (wastewater), Two Harbors (wastewater), City of Cromwell (wastewater), Knife River/Larsmont (wastewater), City of Eveleth (wastewater), City of Thomson (water supply), City of Duluth (wastewater), City of Proctor (wastewater & water supply), and City of Hermantown (wastewater).

Local cooperation. Project Cooperation Agreements for the above listed projects require the local sponsor to provide lands, easements, and rights of way as well as the required 25 percent local Sponsor cost share funding. The program is operated on a reimbursable basis. The government and local sponsor agree on Project cost and work. The Sponsor retains a contractor to perform the work. Upon receipt of proper invoice and Government construction inspector verification that the work was performed, the Government reimburses the Sponsor for 75 percent of the invoice billing.

Operations and results during FY 02. PCAs were signed with Crane Lake (FY 01), Aitkin (FY 02), Garrison/Kathio/West Mille Lacs (FY 02), and Cromwell (FY 03). PCAs with the remaining local sponsors are in progress. Federal costs for FY 03 were \$801,754.

Condition at end of fiscal year. Construction is near completion at the cities of Orr, Bigfork, Aitkin, and Crane Lake. Design work is complete at Koochiching County.

Miscellaneous

20. NORTHERN, WI

Location: Northern Wisconsin Section 154 is defined as the Counties of Douglas, Bayfield, Ashland and Iron, Wisconsin. These 4 counties are located within Wisconsin Congressional District 7.

Existing project: Federal Fiscal Year 2003 was the first year that funds were made available to implement the Section 154 program. Section 154 of the Consolidated Appropriations Act of 2001 (P.L. 106-554) provided authorization for the Corps of Engineers to assist northern Wisconsin communities with their environmental infrastructure and water resource projects. Eleven projects were selected in FY 03 for implementation including Lake of the Falls (water resources), Glidden (water supply and wastewater), Port Wing (wastewater), Village of Superior (water supply & wastewater), Bad River Indian Reservation (water supply & wastewater), Hurley (wastewater), Bayfield (wastewater), Parkland (wastewater & water supply), Mercer (water supply), Lake Nebagamon (wastewater), and Iron River (wastewater).

Local cooperation. Project Cooperation Agreements for the above listed projects require the local sponsor to provide lands, easements, and rights of way as well as the required 25 percent local Sponsor cost share funding. The program is operated on a reimbursable basis. The government and local sponsor agree on Project cost and work. The Sponsor retains a contractor to perform the work. Upon receipt of proper invoice and Government construction inspector verification that the work was performed, the Government reimburses the Sponsor 75 percent of the invoice billing.

Operation and results during FY 03. A PCA were for Glidden Sanitary District was forwarded to the Assistant Secretary of the Army's office in September 2003. PCAs with the remaining local sponsors are in progress. Federal costs for FY 03 were \$50,707.

Condition at end of fiscal year. With the first PCA forwarded shortly before the end of the fiscal year there was no opportunity to get a PCA signed during FY 03. Coordination with the ASA office is underway on the Glidden Sanitary District PCA.

21. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Flood control projects turned over to local interests were inspected to determine that project channels are

kept clean and unobstructed, dikes and revetments are in good condition, and structures are in good repair and operable. Deficiencies, if any, were minor unless noted. (See Table 16-J on inspection of completed flood control projects.)

Cost for the period was \$180,089. Total cost to Sep. 30, 2003 is \$2,666,638.

22. PROTECTION OF NAVIGATION

During FY 03, operation and maintenance costs were \$263,163 at Little Falls, MN (Section 3), \$16,048 on Project Condition Surveys and \$75,607 for Waterborne Commerce Statistics.

23. OTHER WORK UNDER SPECIAL AUTHORITY

In the Sign Standards Programs (as described in Chap. 6, ER 1130-2-500) there were costs of \$154,273. In the Anti-Terrorism/Force Protection Program (Emergency Supplement) there were costs of \$0.

24. FLOOD CONTROL AND COASTAL EMERGENCIES (FC & CE)

Disaster Preparedness	\$ 284,203
Emergency Operations	50,887
Rehabilitation and Inspection Program	301,680
Advanced Measures	<u>436,482</u>
Total FC & CE	\$1,073,252

25. NATIONAL EMERGENCY PREPAREDNESS PROGRAM (NEPP)

National Mobilization	\$ 16,061
Emergency Operations Center Support	1,036
Readiness Training	<u>154</u>
Total NEPP	\$17,251

26. REGULATORY FUNCTIONS PROGRAM

Permit Evaluation	\$4,470,119
Enforcement	478,695
Environmental Impact Statements	<u>606,755</u>
Total Regulatory	\$5,555,569

General Investigations

27. SURVEYS

Fiscal year cost was \$680,041 which included seven special studies, miscellaneous activities, and coordination with both Federal and non-Federal agencies. Table 16-N provides a specific list and respective fiscal year expenditures.

28. COLLECTION AND STUDY OF BASIC DATA

Fiscal year cost was \$153,141 which included the items concerning international water studies, floodplain Management services and hydrologic studies. Table 16-N provides a specific list and respective fiscal year expenditures.

29. ADVANCE ENGINEERING AND DESIGN

Fiscal year cost was \$2,280,500 which included two local protection projects. Table 16-N provides a specific list and respective fiscal year expenditures.

TABLE 16-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost to Sep. 30, 2003
2.	Reservoirs at Headwaters of Mississippi River, MN	New Work:					
		Approp.	0	0	0	0	4,398,628
		Cost	0	0	0	0	4,398,628 ¹
		Maint:					
		Approp.	3,186,335	3,905,242	4,046,500	4,531,029	71,388,520
		Cost	3,227,423	3,843,046	4,071,888	4,587,113	71,384,582 ²
		Maj. Rehab:					
		Approp.	0	0	0	0	425,000
		Cost	0	0	0	0	425,000
		Dam Safety:					
		Approp.	2,709,000	2,885,000	1,711,000	140,000	11,061,000
		Cost	2,780,954	2,806,553	1,846,601	137,137	11,053,833
5.	Breckenridge, MN	New Work:					
		Approp.	245,000	675,000	622,000	1,736,000	3,563,000
		Cost	274,400	414,022	880,685	1,631,054	3,455,580
	(Contributed Funds)	New Work:					
		Contrib.	316,500	225,000	275,000	0	906,500
		Cost	327,811	118,503	175,861	227,040	849,315
6.	Brooklyn Center Sewer Line, Mississippi River, MN	New Work:					
		Approp.	0	20,000	31,200	42,000	93,200
		Cost	0	12,911	37,953	42,319	93,183
	(Contributed Funds)	New Work:					
		Contrib.	0	0	0	0	112,700
		Cost	0	0	0	3,022	3,953
7.	Chaska, MN	New Work:					
		Approp.	90,000	-50,000	-7,000	30,000	31,237,000
		Cost	75,885	-60,684	28,176	30,532	31,234,649 ³
	(Contributed Funds)	New Work:					
		Contrib.	0	0	0	0	4,305,000
		Cost	570	3,503	0	-11,957	4,293,002 ⁸
8.	Crookston, MN	New Work:					
		Approp.	25,000	1,338,000	592,000	2,316,000	5,116,000
		Cost	50,578	904,104	1,026,901	2,302,533	5,102,046
	(Contributed Funds)	New Work:					
		Contrib.	298,000	0	326,000	644,000	1,268,000
		Cost	228,184	36,141	321,133	671,807	1,257,265
9.	Grafton, Park River, ND	New Work:					
		Approp.	100,000	778,000	-67,000	193,000	1,004,000
		Cost	72,759	598,694	110,667	174,678	956,798
	(Contributed Funds)	New Work:					
		Contrib.	0	313,000	0	0	313,000
		Cost	0	0	218,219	48,622	266,841
10.	Grand Forks, ND – East Grand Forks, MN	New Work:					
		Approp.	7,028,000	13,271,000	34,210,000	47,238,000	108,189,000
		Cost	6,544,182	12,901,587	35,209,964	47,290,726	108,125,870
	(Contributed Funds)	New Work:					
		Contrib.	600,000	2,307,913	9,919,000	9,490,087	22,317,000
		Cost	0	1,197,206	5,042,915	10,033,354	16,273,476

TABLE 16-A
COST AND FINANCIAL STATEMENT
(Continued)

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost to Sep. 30, 2003
11.	Homme Lake and Dam, ND	New Work:					
		Approp.	0	0	0	0	1,419,097
		Cost	0	0	0	0	1,419,097 ⁴
		Maint:					
		Approp.	190,000	187,671	172,600	163,024	4,921,351
		Cost	188,546	188,968	172,774	160,794	4,917,880
		Dam Safety:					
		Approp.	1,696,000	3,734,000	2,683,000	1,495,000	11,390,000
		Cost	1,600,633	3,167,886	3,313,976	1,465,820	11,324,627
	(Contributed Funds)	Dam Safety:					
		Contrib.	30,000	30,000	18,000	0	78,000
		Cost	0	60,000	7,000	10,469	77,469
12.	La Farge Lake and Channel Imp., WI	New Work:					
		Approp.	2,516,000	1,676,000	4,698,000	4,830,000	35,642,000
		Cost	262,937	3,013,552	7,604,807	4,830,093	35,642,000
		Maint:					
		Approp.	61,000	39,886	0	0	1,011,343
		Cost	60,474	40,623	0	0	1,011,343
13.	Marshall, MN	New Work:					
		Approp.	3,176,000	754,000	-41,000	8,000	9,016,000
		Cost	3,135,144	720,900	46,655	7,222	9,013,544 ⁵
	(Contributed Funds)	New Work:					
		Contrib.	840,000	100,000	25,000	10,000	1,730,000
		Cost	865,000	75,000	40,000	1,000	1,710,216
14.	Portage, WI	New Work:					
		Approp.	0	-190,000	0	200,000	8,996,000
		Cost	-23,995	-148,720	0	200,536	8,995,634
	(Contributed Funds)	New Work:					
		Contrib.	0	0	700,000	153,000	2,373,000
		Cost	379,049	289,463	219,085	711,320	2,347,386
15.	Sheyenne River, ND	New Work:					
		Approp.	839,000	2,359,000	1,575,000	3,733,000	34,011,000
		Cost	1,573,889	2,143,293	1,970,654	3,724,985	33,987,054 ⁶
	(Contributed Funds)	New Work:					
	Horace to W. Fargo	Contrib.	0	0	0	0	424,318
		Cost	0	0	0	0	424,318
	(Contributed Funds) W. Fargo	New Work:					
		Contrib.	347,000	263,000	152,000	449,000	2,407,000
		Cost	362,670	252,000	165,000	449,000	2,406,860
16.	Souris River Basin, ND	New Work:					
		Approp.	116,000	0	-136,000	-95,000	102,080,000
		Cost	107,945	15,718	-123,196	-94,500	102,080,000 ⁷
		Maint.					
		Approp.	309,000	325,373	357,000	258,884	2,623,256
		Cost	301,188	333,397	340,423	274,147	2,619,869
	(Contributed Funds)	New Work:					
		Contrib.	0	0	0	0	5,698,858
		Cost	19,700	0	0	-1,915	5,696,898

**TABLE 16-A COST AND FINANCIAL STATEMENT
(Continued)**

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost to Sep. 30, 2003
17.	Wahpeton, ND	New Work:					
		Approp.	200,000	482,000	830,000	2,174,000	3,886,000
		Cost	214,160	447,305	860,307	2,177,123	3,882,502
	(Contributed Funds)	New Work:					
		Contrib.	227,000	12,000	404,000	200,000	893,000
		Cost	246,940	41,785	24,255	567,522	880,502
18.	Mille Lacs Regional Wastewater, MN	New Work:					
		Approp.	0	0	16,000	30,000	46,000
		Cost	0	0	15,831	21,697	37,528
19.	Northeastern, MN	New Work:					
		Approp.	0	195,000	738,000	1,515,000	2,448,000
		Cost	0	73,166	630,617	801,754	1,505,537
20.	Northern, WI	New Work:					
		Approp.	0	0	0	55,000	55,000
		Cost	0	0	0	50,707	50,707

1. Includes \$681,805 for new work for previous project.
2. Includes \$100,857 for maintenance for previous projects and MO of Dams funds of \$126,391.
3. Excludes \$744,114 in other contributed funds that have been expended for betterments.
4. Excludes \$56,220 contributed funds. Includes \$23,000 expended during FY 91 – FY 95 under Section 1135, Public Law 99-662 authority.
5. Excludes \$1,802,866 for previous project. Includes \$372,000 CP&E funds obligated prior to 1 Oct 85 which remains excluded from the project cost estimate.
6. Excludes \$1,150,000 sunk costs for deauthorized Kindred Lake unit (see Table 16-G). Excludes \$475,000 for costs associated with inactive Maple River unit.
7. Excludes \$4,919,000 sunk costs for deferred Lake Darling Dam unit (see Table 16-E).
8. Excludes \$5,886 in other contributed funds that have been expended for betterments.

TABLE 16-B

See Sec. in Text	Date of Authorizing Act	Project and Work Authorized	Documents
2.		RESERVOIRS AT HEADWATERS OF MISSISSIPPI RIVER, MN	
	March 3, 1899	Reconstruct 4 of the 5 original dams and surveys to determine extent of lands overflowed by reservoirs.	
	March 2, 1907	Reconstruct Sandy Lake Dam and construct Gull Lake Reservoir.	
	June 25, 1910	Construct an equalizing canal between Winnibigoshish and Leech Lake Reservoirs (no work was done and this part of the project abandoned in Act of Mar. 4, 1915).	H. Doc. 363, 61 st Cong., 2 nd sess.
	July 27, 1916	Abandonment of ditches connecting Long Lake, Round Lake, and Gull Lake.	H. Doc. 413, 64 th Cong., 1 sess. ¹
	June 26, 1934 ²	Operation and maintenance provided for with funds from War Department appropriations for rivers and harbors.	
5.	June 30, 1948	BRECKENRIDGE, MN	Sec 205 1948 Flood Control Act, as amended
	Dec. 11, 2000		2000 WRDA – Public Law 106-541
6.	July 24, 1946	BROOKLYN CENTER SEWER LINE, MISSISSIPPI RIVER, MN	Sec 14 1946 Flood Control Act, as amended
7.	March 6, 2002		1976 WRDA – Public Law 94-587
	October 22, 1976	CHASKA, MN	1986 WRDA – Public Law 99-662
	Nov. 17, 1986	Cost Sharing provisions	1999 WRDA – Public Law 106-53
8.	August 17, 1999	CROOKSTON, MN	1986 WRDA – Public Law 99-662
9.	Nov. 17, 1986	GRAFTON, PARK RIVER, ND	1999 WRDA – Public Law 106-53 (Reauthorization)
	Nov. 18, 1991		Public Law 105-277, OMNIBUS Appropriation Bill, FY 99
	August 17, 1999		Deauthorization
10.	October 21, 1998	GRAND FORKS, ND AND EAST GRAND FORKS, MN	1999 WRDA – Public Law 106-53 (Reauthorization)
11.		HOMME LAKE AND DAM, ND	Public Law 105-277, OMNIBUS Appropriation Bill, FY 99
	December 22, 1944	Authorized as Park River Reservoir	1944 Flood Control Act (S. Doc. 194, 78 th Cong., 2d sess.)
		Redesignated Homme Reservoir and Dam	Public Law 435 (80 th Cong. 2d sess.)
	November 17, 1986	Project restoration of wetland habitat conditions	Sec 1135 1986 WRDA – Public Law 99-662
12.		LA FARGE LAKE AND CHANNEL IMPROVEMENT, WI	
	October 23, 1962	Flood control dam and impoundment project.	1962 Flood Control Act
	October 12, 1996	Modification to original project to include transfer of approximately 8.569 acres of project lands to the State of Wisconsin and the Secretary of the Interior to be held in trust for the Ho-Chunk Nation. Modification also includes deauthorizing the construction of the reservoir and dam, while completing other features of the original project.	WRDA 1996
13.	November 17, 1986	MARSHALL, MN	WRDA 1986 – Public Law 99-662, Sec 401(a)
	November 17, 1988		WRDA 1988 – Public Law 100-676

TABLE 16-B

See Sec. in Text	Date of Authorizing Act	Project and Work Authorized	Documents
14.	November 17, 1986	PORTAGE, WI	WRDA 1986 – Public Law 99-662
15.	November 17, 1986	SHEYENNE RIVER, ND Project shall include a dam and reservoir of approximately 35,000 acre-feet of storage for the purpose of flood protection Maple River.	WRDA 1986 – Public Law 99-662
16.	November 17, 1986	SOURIS RIVER BASIN, ND Consists of two reservoirs in Saskatchewan, Canada (known as Rafferty and Alameda projects); a flood warning system for Minit; Levee and channel improvements at Sawyer and six subdivisions from Burlington to Minot; levee and diversion channel at Renville County Park; flood proofing in the basin and Purchase of flowage easements; modifications to dams 87 and 96 in the Upper Souris National Wildlife Refuge; and modifications to Dams 320, 326, 332, 341 and 357 in the J. Clark Salyer National Wildlife Refuge.	WRDA 1986 – Public Law 99-662
17.	June 30, 1948	WAHPETON, ND	Sec 205 1948 Flood Control Act, as amended
18.	October 31, 1992	MILLE LACS REGIONAL WASTEWATER, MN	WRDA 1992, as amended by Sec 108(d) of the Consolidated Approp. Act of 2001 (Public Law 106-554)
19.	August 17, 1999	NORTHEASTERN, MN	1999 WRDA – Public Law 106-53, Sec 569
20.	December 15, 2000	NORTHERN, WI	Sec 154 2001 Consolidated Appropriations Act (Public Law 106-554)

1. Contains latest published map.
2. Permanent Appropriations Repeal Act.

TABLE 16-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report for	Cost To September 30, 2003	
			Construction	Operation and Maintenance
Baudette Harbor, MN	Completed	1961	\$36,415	57,768
Black River, WI	¹	1950	67,585	--
Lake Traverse, MN and SD	^{3,4}	1921	92	--
Minnesota River, MN	Completed	1996	2,057,722 ⁸	583,162
Mississippi and Leech Rivers, MN	Completed ³	1929	277,615	40,251
Mississippi River between Brainerd and Grand Rapids, MN	⁵	1925	47,794	3,891
Pine Creek, Angle Inlet, MN	Completed	1978	38,700	102,196
Red Lake and Red Lake River, MN	Completed ³	1923	9,070	--
Red River of the North, MN and ND	^{3,6}	1921	293,344	76,209
St. Croix River, MN and WI	Completed	1991	150,410	1,185,011
Warroad Harbor and River, MN	Completed	1996	86,105	2,159,833
Wisconsin River, WI	^{2,3}	1888	--	--
Zippel Bay Harbor, MN	Inactive	1928	27,941	11,139
Zippel Bay, Lake of the Woods County, MN	Completed	1996	515,000	63,941

- Existing channel adequate for commerce (see Table 16-G for deauthorized portion of project.)
- Originally included in project 'Fox and Wisconsin River, WI'. Abandonment of improvement of Wisconsin River by channel contraction works recommended in 1886 and 1887 (H. Doc. 65, 49th Cong., 2nd sess.) Expenditures included under 'Fox and Wisconsin Rivers, WI'. No breakdown available.
- No commerce reported.
- Abandonment recommended in 1915 (H. Doc. 439, 64th Cong., 1st sess.) and June 24, 1926 (H. Doc. 467, 69th Cong., 1st sess.)
- Abandonment recommended June 24, 1926 (H. Doc. 467, 69th Cong., 1st sess.)
- Abandonment recommended in 1915 (H. Doc. 1666, 63d Cong., 3d sess.)
- Abandonment recommended June 24, 1926 (H. Doc., 69th Cong., 1st sess.)
- Includes \$117,542 for new work for previous project.

TABLE 16-E **OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Project	Status	For Last Full Report See Annual Report for	Cost To September 30, 2003	
			Construction	Operation and Maintenance
Aitkin County, CSAH 10, MN	Completed	1998	\$ 360,700 ⁵⁵	--
Big Fork River, MN ²	Completed	1998	294,600 ⁶	--
Big Stone Lake and Whetstone River, MN and SD	Completed	1996	12,174,600 ¹	\$5,752,058
Black Bear & Miller Lakes, Crow Wing City, MN ³	Completed	1988	471,000	--
Black River at North Bend, WI ²	Completed	--	74,500	--
Bonnes Coulee, Velve, ND ²	Completed	1985	58,500	--
Cannon River at Faribault, MN ²	Completed	1991	62,585 ⁷	--
Cochrane Drainage Ditch, WI	Completed	--	37,182	--
Devils Lake, ND ³	Completed	1992	2,732,000	--
Dry Run, IA	Completed	1966	1,790,759 ⁸	--
Eau Galle River, WI	Completed	1996	9,039,250	14,461,268
Elk River, MN	Completed	1970	259,700 ⁹	--
Emerson Manitoba-Noyes, MN ³	Completed	1992	343,000 ¹⁰	--
Enderlin, Maple River, ND ³	Completed	1990	4,000,000 ¹¹	--
Gilmore Creek, Winona, MN ³	Completed	1997	2,351,553 ¹²	--
Grafton Pumping Station, ND ²	Completed	1990	92,865 ¹³	--
Grand Mound, State Historic Site, MN ²	Completed	1992	242,000 ¹⁴	--
Guttenberg, IA	Completed	1974	2,361,915	--
Hanover, Hennepin County, MN ²	Completed	1988	259,500	--
Houston, MN	Completed	1999	5,018,945 ⁵³	--
Irving Township, Jackson County, WI ²	Completed	1984	189,600	--
Irving Township at Nicols Road, Jackson County, WI ²	Completed	1986	158,500	--
Kickapoo River, Gays Mills, WI ²	Completed	1987	33,000	--
Lac qui Parle Lakes, MN	Completed	1996	964,873 ⁵²	13,820,084
Lake Andrusia, Mississippi River, MN ²	Completed	1989	61,326 ¹⁵	--
Lake Pulaski, Wright County, MN ³	Completed	1991	1,353,478 ¹⁷	--
Lake Traverse and Bois de Sioux River, SD and MN	Completed	1996	1,339,727	13,009,934
LeSueur River, CSAH 28, MN	Completed	2001	261,400 ⁵⁶	--
Lost River, MN	Completed	1967	517,519 ¹⁸	--
Lower Branch Rush River, ND ³	Completed	1974	1,000,000 ¹⁹	--
Mahnomen, Wild Rice River, MN ²	Completed	--	85,400	--
Mankato and North Mankato, MN	Completed	1997	97,013,675 ²⁰	--
Mankato Township, MN ⁹	Completed	1998	215,200 ²¹	--
Melrose, WI ²	Completed	1998	219,600 ²²	--
Middle River at Argyle, MN ³	Completed	1993	2,360,000	--
Minnesota River, Belgrade Township, MN ²	Completed	1995	261,000 ²³	--
Minnesota River at Henderson, MN ³	Completed	1997	1,969,800 ²⁴	--
Minnesota River at LeSueur, MN ²	Completed	1986	250,000 ²⁵	--
Minnesota, MN ³	Completed	1963	161,545	--
Minot, ND	Completed	1983	21,479,500 ²⁶	--
Mississippi River near Aitkin, MN	Completed	1957	1,675,835	--
Pembina River, ND	Active ⁵	1983	--	--
Pettibone Park, La Crosse, WI ²	Completed	1989	62,762 ²⁷	--
Plum Creek, New Haven Township, MN ⁴	Completed	--	31,100	--
Prairie du Chien, WI	Completed	1991	3,529,000	--

TABLE 16-E
(Continued)

**OTHER AUTHORIZED FLOOD
CONTROL PROJECTS**

Project	Status	For Last Full Report See Annual Report for	Cost To September 30, 2003	
			Construction	Operation and Maintenance
Red Lake River at Gentilly, MN	Completed	1991	311,000 ²⁸	--
Red Lake River at Huot, MN ²	Completed	1984	64,500	--
Red Lake River at Red Lake Falls, MN ²	Completed	1984	131,000	--
Red Lake River, MN including Clearwater River, MN	Completed	1996	3,120,079 ²⁹	3,502,999
Red Lake River, Polk County, Crookston, MN ²	Completed	1997	166,400 ³⁰	--
Red Lake River, State Hwy 32, MN ²	Completed	1993	151,665 ³¹	--
Red River of the North at Argusville, ND ³	Completed	1990	1,534,000	--
Red River of the North at Breckenridge, MN ²	Completed	1990	85,665 ³²	--
Red River of the North at Breckenridge, MN ²	Completed	--	27,500	--
Red River of the North Drainage Basin, MN SD, & ND	Completed	1997	8,322,112 ³³	15,166,637
Red River of the North at Fargo, ND-Moorhead, MN ⁴	Completed	1992	226,500 ³⁴	--
Red River of the North, Fargo Public Facilities, ND	Completed	2002	1,342,821 ⁵⁹	--
Red River of the North at Halstad, MN ³	Completed	1986	2,012,000	--
Red River of the North at Oslo, MN ³	Completed	1984	1,960,200	--
Red River of the North at Pembina, ND ³	Completed	1979	2,000,000	--
Redwood River below Marshall, MN ³	Completed	1960	202,400	--
Rochester, MN	Completed	1997	67,523,438 ⁵⁴	--
Root River at Hokah, MN ²	Completed	1992	239,627 ³⁵	--
Roseau River, MN	Completed	1996	2,341,000 ³⁶	--
Rushford, MN	Completed	1980	3,192,333	--
Sanders Creek, Boscobel, WI ³	Completed	1998	1,441,500 ³⁷	--
Shepard Road, Mississippi River, St. Paul, MN ²	Completed	1985	250,000 ³⁸	--
Sheyenne River, Valley City, ND ²	Completed	1988	111,000	--
Snake River, Alvarado, MN ³	Completed	1997	1,761,000 ³⁹	--
Sogn, MN	Completed	1996	47,400 ⁴⁰	--
Souris River, Velva, ND ²	Completed	1988	137,500	--
State Hwy 7 Bridge, Pomme de Terre River, Appleton, MN	Completed	2002	239,903 ⁶³	--
State Road and Ebner Coulees, WI	Completed	1996	21,435,000 ⁴¹	--
Sterling Center, MN ²	Completed	1997	160,900 ⁴²	--
St. Cloud, MN	Completed	2002	998,814 ⁶⁰	--
St. Croix River, Stillwater, MN	Completed	2002	5,083,550 ⁶¹	--
St. Hilaire, MN	Completed	1996	141,100 ⁴³	--
St. Paul, MN	Completed	2002	13,897,500 ⁶²	--
St. Paul and South St. Paul, MN	Completed	1974	8,476,012 ⁴⁴	--
Upper Iowa River, IA	Completed	1964	888,445	--
Velva, ND ³	Completed	1970	334,628	--
Vermillion River, Hastings, MN ³	Completed	1980	999,900	--
Veteran's Memorial Levee, Mississippi River, Hastings, MN ²	Completed	1985	182,000	--
Wabasha County, County Hwy 11, MN ²	Completed	1995	273,000 ⁴⁵	--
Wabasha, Mississippi River, MN ²	Completed	1993	113,700 ⁴⁶	--

TABLE 16-E
(Continued)

**OTHER AUTHORIZED FLOOD
CONTROL PROJECTS**

Project	Status	For Last Full Report See Annual Report for	Cost To September 30, 2003	
			Construction	Operation and Maintenance
Warner Road, Mississippi River, St. Paul, MN ²	Completed	1987	250,000	--
Warner Road, Sibley Street, Mississippi River, St. Paul MN	Completed	1992	500,000 ⁴⁷	--
Wild Rice River, Hendrum/Lee, MN ³	Completed	1997	383,300 ⁴⁸	
Wild Rice River, Mahnomen County, MN ²	Completed	1986	58,500	--
Wild Rice River, Mahnomen, MN ⁴	Completed	--	86,568	--
Wild Rice River, South Branch and Felton Ditch, MN	Completed	1989	5,620,700	--
Winona, MN	Completed	1989	32,741,131 ⁴⁹	--
Zumbro River at Genoa, MN ²	Completed	1992	34,500 ⁵⁰	--
Zumbro River, MN	Completed	1975	1,284,100	--
Zumbro River at Jarrett and Millville, MN ²	Completed	1990	141,440 ⁵¹	--

1. Excludes \$152,492 contributed funds. In addition, \$487,491 in other contributed funds have been expended for work under Government contract paid for by the Ottertail Power Company.
2. Project authorized by Chief of Engineers under small project authority, Section 14, Flood Control Act of 1946, as amended.
3. Project authorized by Chief of Engineers under small project authority, Section 205, Flood Control Act of 1948, as amended.
4. Project authorized by Chief of Engineers under small project authority, Section 208, Flood Control Act of 1954, as amended.
5. Preconstruction planning has not started. Phase I completed under General Investigations.
6. Excludes \$56,453 contributed funds.
7. Excludes \$18,362 contributed funds.
8. Excludes \$42,766 contributed funds.
9. In addition \$87,878 was expended from Public Law 99 funds in the spring of 1969 for emergency protection and incorporation into the permanent project.
10. Excludes \$201,544 contributed funds.
11. Excludes \$150,191 contributed funds.
12. Excludes \$12,749 contributed funds.
13. Excludes \$27,583 contributed funds.
14. Excludes \$77,290 contributed funds.
15. Excludes \$20,441 contributed funds.
16. Advance engineering and design costs only. Project deferred with authorization of Souris River Basin Project (see Section 25 and Table 16-A for costs for active project).
17. Excludes \$74,225 contributed funds.
18. Excludes \$46,034 for the Ruffy Brook unit for which authorization expired in April 1966 (see Table 16-G). Excludes \$246,911 contributed funds.
19. Excludes \$35,000 contributed funds.
20. Excludes \$79,749 contributed funds.
21. Excludes \$91,218 contributed funds.
22. Excludes \$59,855 contributed funds.
23. Excludes \$68,421 contributed funds.
24. Excludes \$307,239 contributed funds.
25. Excludes \$130,300 contributed funds.
26. Excludes \$4,167 contributed funds.
27. Excludes \$20,920 contributed funds.
28. Excludes \$92,402 contributed funds.
29. Excludes \$30,020 contributed funds.
30. Excludes \$33,000 contributed funds.
31. Excludes \$35,430 contributed funds.

**TABLE 16-E
(Continued)****OTHER AUTHORIZED FLOOD
CONTROL PROJECTS**

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32. Excludes \$26,055 contributed funds.
 33. Includes cost of the Wahpeton-Breckenridge unit \$11,239, which is classed as "deferred" and the units on which authorization has expired: Maple River, \$1,241; Moorehead, \$27,700; which Sheyenne, \$37,956. In addition, \$203,874 special deposit funds and \$146,160 in other contributed funds have been expended for work under government contract paid for by local interests. Includes \$184,352 expended on Orewll Lake between FY91 - FY96 under Section 1135, Public Law 99-662 authority. Excludes \$64,775 contributed funds under Section 1135, PL 99-662 authority.
 34. Excludes \$61,895 contributed funds.
 35. Excludes \$67,014 contributed funds.
 36. Excludes \$65,902 contributed funds.
 37. Excludes \$175,357 contributed funds.
 38. Excludes \$62,620 contributed funds.
 39. Excludes \$100,000 contributed funds.
 40. Excludes \$5,253 contributed funds.
 41. Excludes \$225,000 sunk costs for inactive Ebner Coulee unit (see Table 16-E) and \$4,206,836 contributed funds.
 42. Excludes \$39,815 contributed funds.
 43. Excludes \$31,064 contributed funds.
 44. Excludes \$545,637 contributed funds for new work and \$38,000 expended by South St. Paul for work in lieu of required cash contribution. Excludes an additional \$206,629 expended for work done at request of local interests.
 45. Excludes \$73,619 contributed funds.
 46. Excludes \$37,631 contributed funds.
 47. Excludes \$184,709 contributed funds.
 48. Excludes \$97,800 contributed funds.
 49. Excludes \$589,316 contributed funds. In addition, \$717,809 in other contributed funds have been expended for work under Government contract paid for by local interests.
 50. Excludes \$11,066 contributed funds.
 51. Excludes \$38,173 contributed funds.
 52. Excludes \$20,000 contributed funds.
 53. Excludes \$777,070 contributed funds.
 54. Excludes \$7,628,650 contributed funds.
 55. Excludes \$177,500 contributed funds.
 56. Excludes \$114,000 contributed funds.
 57. Excludes \$2,083,373 contributed funds.
 58. Excludes \$455,000 contributed funds.
 59. Excludes \$674,000 contributed funds.
 60. Excludes \$670,000 contributed funds.
 61. Excludes \$1,300,000 contributed funds.
 62. Excludes \$3,418,460 contributed funds.
 63. Excludes \$106,800 contributed funds.

TABLE 16-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date Deauthorized	Federal Funds Expended	Contributed Funds Expended
Black River, WI ¹	1950	Aug. 5, 1977	--	--
Black River Lake, WI	1950	Aug. 5, 1977	--	--
Bois de Sioux and Red River, Wahpeton, MN—Breckenridge, MN ⁸	1981	Apr. 16, 2002	\$ 11,239	--
Burlington Dam, Souris River, ND	1983	Mar. 10, 1995	5,568,600 ²	--
Grafton, ND ³	1983	Nov. 18, 1991	--	--
Hudson Harbor, WI ⁴	1986	Nov. 17, 1986	--	--
Kindred Lake, ND ⁵	1987	Nov. 17, 1986	1,150,000	--
La Crosse, WI ⁶	1983	Nov. 17, 1986	--	--
Lake Darling Dam, ND	1987	Sep. 13, 1994	4,919,000 ⁷	--
Maple River, ND ⁸	1981	Oct. 6, 1961	1,241	--
Moorhead, MN ⁸	1981	Oct. 30, 1961	27,700	--
Pembina River Lake, ND	1950	Jan. 1, 1990	50,000	--
Ruffy Brook, MN	1967	Apr. 1966	46,034	--
Sheyenne River, ND ⁸	1981	Dec. 31, 1970	37,956	--
Sheyenne River, Maple River Reservoir, ND	1988	Apr. 16, 2002	475,000	--
State Road and Ebner Coulees (Ebner Coulee Unit)	1981	Jul. 9, 1995	225,000	--
Tongue River Lake, ND	1950	Jan. 1, 1990	23,695	--
Twin Valley Lake, Wild Rice River, MN	1988	Apr. 16, 2002	2,115,700	--
Warroad River and Bulldog Creek, MN	1974	Nov. 17, 1986	182,000	--
Warroad Harbor and River, MN ⁹	1981	Aug. 5, 1977	--	--

1. Portion of project for removal of obstructions at various points outside the dredged area to clear channel to full project width (see Table 16-C for costs for completed portion of the project).
2. Advance engineering and design costs only. The Senate Report 97-256 states that the Corps is to take no further action to construct Burlington Dam until directed to do so by Congress.
3. Grafton, ND, was reauthorized by Section 364 of WRDA in 1999.
4. Part of the St. Croix River, Minnesota and Wisconsin project.
5. Previously part of Sheyenne River, ND project (see Section 23 and Table 16-A for costs for active project).
6. Authorized for further study by a House Committee on Public Works Resolution dated March 15, 1988.
7. Advance engineering and design costs only. (See Section 25 and Table 16-A for costs for active project).
8. Part of Red River of the North Drainage Basin (see Section 20 in text and Table 16-I for costs for active units of project).
9. Portion of dredging of entrance channel and turning basin to complete project width and depth (see Table 16-C for costs for completed portion of project).

TABLE 16-H

RESERVOIRS AT HEADWATERS OF MISSISSIPPI RIVER
See Section 2 of Text)

Watershed Area (Square miles)			Capacity <u>Previous Projects</u>			<u>Existing Projects</u>						Total Cost
Reservoir	Minimum Stages (feet) ¹	Outlet River	Above St. Paul (miles)	Watershed (Square miles)	Original Lake	Reservoir	at Maximum Stage (acre-feet)	Completed	Cost	Completed	Cost	
Winnibigoshish	6	Mississippi	408	1442	117	179.4	967,930	1884	\$214,000	1900	\$173,470	\$387,470
Leech Lake	0	Leech	410	1163	173	205.9	743,320	1884	171,805	1902	84,380	256,185
Pokegama	6	Mississippi	344	660 ²	24	35.0	120,750	1884	85,000	1904	126,030	211,030
Sandy Lake	7	Sandy	267	421	8	16.6	72,500	1895	114,000	1909	117,020	231,020
Pine River	9	Pine	199	562	18	23.7	177,520	1886	97,000	1907	133,320	230,320
Gull Lake	5	Gull	168	287	20	20.5	70,820	--	--	1913	86,826	86,826
Surveys and flowage rights							--	--	--	--	160,939	160,939
Recreational facilities							--	--	--	--	2,834,838	2,834,838
Total new work							--	--	681,805	--	3,716,823	4,398,628
Total operating and care							--	100,857	--	68,868,415 ³	68,969,272	
Permanent indefinite appropriation for operation and care, Feb. 1, 1895 to end of fiscal year 1936							--	--	--	--	967,197	967,197
Rehabilitation							--	--	--	--	425,000	425,000
Total							2,152,840	--	\$782,662	--	\$73,977,435	\$74,760,097

1. Lower operating limits by regulations approved February 4, 1936, as modified December 29, 1944.

2. Exclusive of area controlled by Winnibigoshish and Leech Lake Dams.

3. Includes \$126,391 from Approp. 96X5125, M&O Dams.

**TABLE 16-I RED RIVER OF THE NORTH DRAINAGE BASIN:
ACTIVE UNITS IN COMPREHENSIVE BASIN PLAN**

	State	Type	Cost to Sep. 30, 2003	Total Estimated Federal Cost
Orwell River (Otter Tail River)	Minnesota	Reservoir	\$1,916,753	\$1,916,700 ¹
Wild Rice and Marsh Rivers	Minnesota	Channel improvement	405,056	405,100
Rush River	North Dakota	Channel improvement	287,686	287,700
Sand Hill River	Minnesota	Channel improvement	548,778	548,800
Mustinka River	Minnesota	Channel improvement	440,788	440,800
Otter Tail River	Minnesota	Channel improvement	174,768	174,800
Red River at Grand Forks	North Dakota	Levees and floodwall	948,895	948,900
Red River at East Grand Forks	Minnesota	Levees, floodwall, pumping plants	1,698,200 ²	1,698,200 ³
Red River at Fargo	North Dakota	Channel improvement	1,639,924	1,639,900 ⁴
Total Cost to Date			\$8,060,848 ⁵	
Total Estimate Cost				\$8,060,900 ⁶

1. Includes \$181,713 for lands and \$25,045 for recreation facilities.

2. Excludes cost for current planning, engineering and design work.

3. The East Grand Forks unit was reclassified from active to inactive on August 19, 1988; the project was reactivated in June 1997. The cost of this unit was last revised in 1987. A new flood control plan for a combined Grand Forks-East Grand Forks project was authorized in 1999.

4. Includes \$67,900 for lands.

5. Costs of \$11,239 for the Wahpeton-Breckenridge deauthorized unit not included. Authorization of the Sheyenne River, Moorhead, and Maple River units has expired. Cost of these units also not included total \$66,897.

6. The Wahpeton-Breckenridge unit of the project is classed as deauthorized and is excluded from the estimate. The cost of this unit, last revised in 1955, was estimated to be \$666,000. The Flood Control Act approved December 31, 1970 (H. Doc. 330-91-2) provided for deletion of the Sheyenne River unit, and authorization of the Maple River and Moorhead units expired at the end of the 5-year period within which local interests were required to furnish assurances of local cooperation. Authorization of these units, not included, expired on the dates indicated in Table 16-G. In FY 89, the Wahpeton-Breckenridge unit was included as part of the General Investigation program under Restudy of Deferred projects.

TABLE 16-J

**INSPECTION OF COMPLETED
FLOOD CONTROL PROJECTS
(See Section 25 of Text)**

Project	Date Inspected
Bigstone Lake & Whetstone River, MN and SD	September 2003
Black Bear & Miller Lake, Crow Wing Co.- MN.....	July 2003
Chaska, MN	August 2003
Devils Lake, ND	July 2003
Dry Run, Decorah, IA.....	August 2003
Emerson, Manitoba - Noyes, MN	August 2003
Enderlin, Maple River, ND.....	September 2003
Gilmore Creek, Winona, MN.....	August 2003
Grand Mound State Historic Site, MN.....	September 2001
Guttenberg, IA	September 2003
Middle River at Argyle, MN.....	September 2003
Mines Creek, Spring Valley, WI.....	August 2003
Minneota, MN	September 2003
Minnesota & Blue Earth Rivers, Leltillier, MN.....	September 2003
Minnesota River at Henderson, MN	September 2003
Minnesota River, Mankato, MN	September 2003
Minnesota River, North Mankato, MN	September 2003
Minot, ND.....	September 2003
Mississippi River near Aitkin, MN	July 2003
Red River of the North at Argusville, ND	September 2003
Red River of the North at Fargo, ND - Moorhead, MN	September 2003
Red River of the North at Halstad, MN	September 2003
Red River of the North at Oslo, MN.....	September 2003
Red River of the North at Pembina, ND	August 2003
Redwood River at Marshall, MN.....	September 2003
Roseau River, MN	September 2003
Rushford, MN	September 2003
Sanders Creek, Boscobel, WI	September 2003
Snake River at Alvarado, MN.....	September 2003
Souris River Basin, ND	September 2003
Souris River - Burlington to Minot, ND	September 2003
Souris River - Renville, County Park, ND	September 2003
Souris River - Rural Improvements, ND.....	September 2003
Souris River - Sawyer, ND.....	September 2003
Souris River, Velva, ND	September 2003
Trempealeau River - Arcadia, WI	September 2003
Vermillion River, Hastings, MN.....	September 2003

TABLE 16-K FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION
Flood control activities pursuant to Section 205, Public Law 858, 80th Congress, as amended (preauthorization)

Study/Project and Location	Fiscal Year Costs
Armenia, ND	\$640
Chippewa River at Montevideo, MN	22,680
Drayton, ND	44,120
Fargo, Ridgewood Addition, ND	74,779
Granite Falls, MN	266
Lac Qui Parle River, Dawson, MN	271,947
LaCrosse, WI	31,167
Minnesota River, Jordan, MN	5,076
Minnewaukan, ND	14,670
Mississippi River, Newport, MN	5,198
Ottertail River, Breckenridge, MN	435
Pembina River, Neche, ND	12,892
Red River of the North, Oakport, MN	220
Roseau, MN	100,000
Section 205 Coordination	19,968
Wahpeton, ND	2,177,123
Wild Rice, and Marsh Rivers, Ada, MN	6,148
Wisconsin River, Stevens Point, WI	1

Emergency bank protection (Section 14 of the 1946 Flood Control Act, Public Law 526, 79th Congress)

Study/Project and Location	Fiscal Year Costs
Brooklyn Center Sewer Line, MN	42,319
Chippewa River, Big Bend Lutheran Church, MN	43,625
Fargo Public Facilities, ND	61,529
Minnesota River, Shakopee, MN	3,100
Pug Hole Lake, MN	4,930
St. Cloud, MN	768,668
Section 14 Coordination	13,386
State Hwy 7 Bridge, Pomme de Terre River, MN	144,328
Wabasha County, MN	3,215

**TABLE 16-L PROJECT MODIFICATIONS FOR IMPROVEMENT
OF ENVIRONMENT**
**Modifications of projects for the purpose of improving the
quality of the environment in the public interest**
(Section 1135, Public Law 99-662, 99th Congress, as amended)

Study/Project and Location	Fiscal Year Costs
Coordination account funds	\$14,964
Eau Galle River, WI	160,263
Preliminary Restoration Plan	669
Ruffy Brook, Clearwater River, MN	17,807
Sand Hill River, MN.....	8,747
Wild Rice Restoration, MN	8,163

TABLE 16-M AQUATIC ECOSYSTEM RESTORATION
Restorations of Aquatic Ecosystems pursuant to
Section 206, Public Law 104-303

Study/Project and Location	Fiscal Year Costs
Christine and Hickson Dams, MN	8,404
Coordination account funds	\$20,250
Drayton Dam, ND.....	8,494
Grand Marais River, MN	13,720
Hay Creek, Roseau County, MN	88,489
North Ottawa, MN	225,121
Nugget Lake, WI	2
Paint Creek, Allamakee County, IA.....	46,854
Red River of the North, Fargo South Dam, ND	87,653
Swan River, Trout Lake, MN	126,737

TABLE 16-N
GENERAL INVESTIGATIONS
(See Sections 30, 31, and 32 of Text)

Study/Project and Location	Fiscal Year Costs
Special Studies	
Baraboo River, WI	\$54,539
Devils Lake, ND ¹	-96
Minnesota Dam Safety, MN.....	19,207
Minnesota River Basin, MN & SD.....	57,514
Red River of the North, ND	63,056
Upper Mississippi River from Lake Itasca, MN.....	7,726
Watershed/Comprehensive Feasibility Studies	229,531
Miscellaneous Activities	
Special Investigations.....	44,219
FERC Licensing Activities.....	10,089
Inter Agency Water Resources Development.....	57,167
North American Waterfowl Management Plan	2,185
Coordination with Other Agencies	
Cooperation with Other Water Resource Agencies	8,686
Planning Assistance to States ² :	
Minnesota.....	43,299
North Dakota.....	1
Wisconsin.....	82,918
TOTAL SURVEYS	\$680,041
COLLECTION AND STUDY OF BASIC DATA	
International Water Studies	\$ 23,609
International Joint Commission, Red River of the North	55,565
Flood Plain Management Services Unit	24,789
Technical Services, General.....	32,222
Quick Responses	1,819
Special Studies	303
Hydrologic Studies.....	14,834
TOTAL COLLECTION AND STUDY OF BASIC DATA	\$153,141
PRECONSTRUCTION ENGINEERING AND DESIGN	
Devils Lake Outlet, ND.....	\$2,252,290
Grafton, Park River, ND.....	28,210
TOTAL PRECONSTRUCTION ENGINEERING AND DESIGN.....	\$2,280,500

1. Excludes \$81,510 contributed funds.

2. Excludes \$515,803 contributed funds.

MISSISSIPPI RIVER BETWEEN THE MISSOURI RIVER AND MINNEAPOLIS, MN

Section of river covered in this report is divided into three reaches, under supervision and direction of District Engineers at St. Louis, Rock Island, and St. Paul. Section in St. Louis District extends 105 miles from Mouth of Missouri River to Upper Mississippi River mile 300 above Ohio River; Rock Island District extends about 314 miles from mile 300 to 614; and St. Paul District extends about 244 miles from mile 614 to Soo Line Railroad bridge, Minneapolis (mile 857.6).

Location. Mississippi River rises in northern Minnesota, flows about 2,360 miles southerly and empties into Gulf of Mexico. Portion included in this report extends about 663 miles from mouth of Missouri River to Soo Line Railroad bridge, Minneapolis. The latest map and profile showing this section of river are in House Document 669, 76th Congress, 3d session. A map showing Lake Pepin is in House Document 511, 79th Congress, 2d session. A map of section Minneapolis to Dubuque is in House Document 515, 79th Congress, 2d session. A map showing location of drainage districts (Bellevue, Iowa, to Missouri River) is in River and Harbors Committee Document 34, 75th Congress, 1st session.

Previous projects. See page 1199 of Annual Report for 1963.

Existing project. Provides a channel of 9-foot depth and adequate width between mouth of Missouri River (1,179 miles from the gulf) and Soo Line Railroad at Minneapolis, by construction of a system of locks and dams, supplemented by dredging. Project also provides for further improvements at St. Paul to provide a 2.7 mile basin extending downstream from Robert Street Bridge, and at Minneapolis to provide adequate terminal facilities, and for other harbor improvements and miscellaneous work. Pertinent data on locks and dams, harbor improvements, additional features entering into cost of project, and authorizing legislation are given in Tables 17-C, 17-D, 17-E, and 17-G. All dams are concrete. Three dams (Upper St. Anthony Falls, 1 and 19) are fixed, remainder are movable. See House Document 669, 76th Congress, 3d session, for a report of Chief of Engineers dated February 27, 1940, containing a

general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and irrigation needs.

Local cooperation. Small-boat harbors authorized in the River and Harbor Act of 1962 are subject to conditions that local interests make a cash contribution toward cost of construction (except in case of Quincy Harbor which involves maintenance only of an existing harbor); furnish lands and rights-of-way for construction and future maintenance; hold the United States free from damages; provide and maintain mooring facilities and utilities; reserve accommodations for transient small boats; accomplish all necessary relocations and alterations; and establish public bodies empowered to regulate use, growth and development of the harbors.

Rectification of seepage damages to privately owned lands in the Sny Island Levee Drainage District, IL, was contingent upon the conditions that local interests acquire all lands, easements, and rights-of-way necessary for construction and maintenance of the project; comply with applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970; accept, operate, and maintain the project upon its completion; and hold and save the United States free from damages arising from the construction and operation of the completed project; provided further that the local public entity shall be reimbursed by the Government in the amounts actually expended by it in the acquisition of real estate and for payments required under Public Law 91-646 if said amounts have been previously submitted to and approved by the Government.

Local cooperation requirements have been complied with for improvement of commercial harbor at Dubuque, IA; for improvement of Beaver Slough at Clinton, IA, for navigation; and for general navigation facilities at small-boat harbors at Rock Island, IL; Hannibal, MO; Fort Madison, IA; Davenport (Lindsay Park), IA; Muscatine, IA (including freight terminal approach channel); Andalusia, IL; Warsaw, IL; Moline, IL; Clinton, IA; and Savanna, IL.

Licenses. Federal Energy Regulatory Commission collects from non-Federal licensees annually to recompensate the United States for use of government dams for generation of hydroelectric power. Amounts collected are returned to U.S. Treasury. (See Table 17-F for license fees collected for the fiscal year.)

St. Paul District. New Work: None.

Maintenance: During fiscal year 2003, the Government pipeline dredge WILLIAM A. THOMPSON removed 426,200 cubic yards of material at 13 sites. Government derrick barge HAUSER/WADE removed 6,147 cubic yards of material at two sites. Government pipeline dredge DUBUQUE removed 24,875 cubic yards of material at four sites in the main channel. A contract pipeline dredge also removed 110,598 cubic yards from a historically used dredge material placement site. Mechanical dredging contractors removed 316,363 cubic yards from the main channel at 17 sites. Major maintenance projects included lock dewatering at Lower St. Anthony Falls, central control building and electrical controls at Locks 8 and 9, and painting of the bridge at Dam 10, and the dam gate painting at Lock and Dam 4.

Operating and Care: Locks and Dams were operated as required and necessary repairs were made to those and appurtenant structures. Other studies, reports, and miscellaneous engineering work were also accomplished.

Rehabilitation: The rehabilitation of the district's central control buildings continued. During FY 2003 the building and site work was completed at Lock 8 and continued at Lock 9. Installation of replacement crane carriers and bulkhead hoists was completed.

The related navigation safety and embankments problems at Lock and Dam 3 were examined in separate reports in 1995 with recommended structural fixes for these problems. The proposed projects were approved by Corps Headquarters, but have not been implemented for a number reasons including the presence of a diverse mussel bed with state-listed endangered species in the tailwater area. Construction of the first stage of the embankment project was completed in the summer of 1999. The St. Paul District has decided to re-evaluate these related problems in an effort to find more optimal solutions. A Notice of Intent to Prepare an Environmental Impact Statement for the Lock and Dam 3 navigation

safety and embankments re-evaluation was published in the Federal Register.

Alternative plans for navigation safety and embankments are being evaluated in a risk and benefit cost assessment. The reevaluation study will be completed in FY 2004.

Costs to St. Paul were \$42,526,124 for operation and maintenance and \$2,911,903 for rehabilitation; for a total cost of \$45,438,027.

Rock Island District. New Work: None.

Maintenance: Channel dredging by Government Cuttherhead Pipeline Dredge WILLIAM A. THOMPSON was performed at various locations in pools 16, 17, 18, and 22, with a total of 155,626 cubic yards of material being removed. Mechanical dredging was performed in pools 16, 17, 18, 20, 21, 22, and 24 with a total of 108,822 cubic yards of material being removed. The total cost of dredging was \$2,873,558. Continuing construction includes Lock and Dam 12 Major Maintenance, Repairs to Lock and Dam 15 Roller Gate Chains and Service Bridge Decking, Repairs to Lock and Dam 20, 21, 22 Horizontal Concrete. Construction was initiated for Lock and Dam 17 and 21 Submersible Dike Repairs, Lock and Dam 15 Checkpost and Ladder Repairs, and Multi-Site Facility Protection Upgrades. Maintenance for the Navigation Function continued at a cost of \$21,892,115 (includes dredging costs). Maintenance for Environmental Stewardship continued at a cost of \$181,957. Maintenance of Recreation Features continued at a cost of \$626,709. Total maintenance costs for Operation and Maintenance were \$22,700,781. Net credits to the project were \$31,348, primarily as a result of collection from towboat companies for damages for lock and dam structures.

Operations for Navigation continued at a cost of \$17,905,833. Environmental Stewardship continued at a cost of \$648,068. Operations for the Recreation Function continued at a cost of \$2,118,907. Total operations costs were \$20,672,810. Total operations and maintenance costs were \$43,342,244.

Rehabilitation: Rehabilitation was continued at Locks and Dams 11, 12, 14, and 19 for costs of \$2,285,785, \$1,033,190, \$244, and \$292, respectively. Total rehabilitation and maintenance costs were \$3,611,633.

Costs to the Rock Island District were \$43,342,243 for operations and maintenance and

\$3,611,633 for major rehabilitation for a total cost of \$46,953,876.

St. Louis District. New Work: Costs incurred for Melvin Price Locks and Dam, formerly Lock and Dam 26 Replacement, were \$38,406 for the locks; \$1,588,092 for buildings, grounds, and utilities; \$124,306 for engineering; \$41,540 for supervision and administration. Cost for Melvin Price totaled \$1,792,344. Costs incurred for the second lock totaled \$9,164, all for engineering. Total cost for new work was \$1,801,508.

Rehabilitation: Major rehabilitation is complete at Lock and Dam 25, except for project closeout. FY 2003 costs totaled \$223 (all for engineering). Major rehabilitation continued at Lock and Dam 24 at a cost of \$12,686,498 for the lock; \$483,894 for engineering; and \$688,872 for supervision and administration. Costs for Lock and Dam 24 totaled \$13,859,264. Total rehabilitation cost \$13,859,487.

Operating and care: The locks and dams were operated as required and necessary repairs were made thereto. Other work accomplished was management of natural resources, operations of recreation areas, condition and operating studies, water control management, and other studies and reports for a total cost of \$7,086,856.

Maintenance: Total maintenance cost \$4,732,180.

Costs to the St. Louis District were \$1,801,508 for new work on the Melvin Price Locks and Dam and Second Lock; \$13,859,487 for major rehabilitation; \$11,819,036 for operation and maintenance for a total cost of \$27,480,031.

Total Federal costs of existing project to the end of the fiscal year for the three Districts were \$1,801,508 for new work; \$97,687,404 regular funds for operation and maintenance; and \$11,557,751 regular funds for rehabilitation. Total costs for FY 03 were \$111,046,663.

Condition of the channel at end of fiscal year: The controlling depths of nine feet at low water and minimum widths suitable for long-haul common carrier service were maintained in all pools.

St. Paul District. Work completed: Locks and Dams at St. Anthony Falls and 1 to 10, inclusive, except for relatively minor appurtenant work; major improvements of channels and harbors at St. Paul and

Minneapolis; small boat harbors and commercial harbors at Lake City, Red Wing, and Winona, MN; and Prairie du Chien, WI; small-boat harbors at St. Paul, Hastings, Red Wing, Wabasha, Lake City and Winona, MN; Lansing, IA; and Bay City, Alma, Pepin, and Prairie du Chien, WI; a remedial drainage ditch at Cochrane, WI; miscellaneous channel dredging and realignment; channel markers; pool clearing; and construction of various facilities for recreation use.

Status of land and flowage acquisition: Approximately 50,702.07 acres of land in fee, including 47,305 acres used by the Department of the Interior in accordance with a cooperative agreement and general plans, and easements of 15,458.35 acres of land are owned or controlled in Pools 1 to 10, inclusive, at end of fiscal year. In addition, fee title to 12.46 acres and perpetual easements on 2.98 acres of land for St. Anthony Falls and perpetual easements over 244.39 acres of land for harbors have been obtained and Department of the Army holds special rights over 62,954.74 acres owned by the Department of the Interior in pools 3 to 10, inclusive. Acquired 6.02 acres at Baldhill Dam Reservoir for bank erosion.

Work remaining to complete portion of project in St. Paul District: FY 2004 projected acquisitions include five dredge sites containing approximately 50 acres in fee.

Condition of channel at end of fiscal year: The controlling depths of 9 feet at low water and minimum depths for long-haul common carrier service were maintained in all pools.

Rock Island District. Work completed: Major construction items including all locks and dams, are completed and in operation. The following related work has also been completed: construction of small-boat harbors at Rock Island, IL; Moline, IL; Andalusia, IL; Warsaw, IL; Fort Madison, IA; Davenport (Lindsay Park), IA; Muscatine, IA; Clinton, IA; and Hannibal, MO; improvement of Beaver Slough at Clinton, IA, for navigation; improvement of commercial harbor at Dubuque, IA; rehabilitation of old auxiliary lock at Lock and Dam 14; permanent closure of old Lock 19 and dry dock; rock and conglomerate excavation in Pools 15 and 16; rectification of seepage damage in the Sny Island Levee Drainage District, IL; recreational facilities; and construction of visitor center at Lock and Dam 15.

Status of land and flowage acquisition:

Acquisition of land in Pools 11 to 22, inclusive consisting of 93,658.174 acres in fee and 11,682.071 acres in flowage easement, has been completed.

Condition of the channel at end of fiscal year:

The controlling depths of nine feet at low water and minimum widths suitable for long-haul common carrier service were maintained in all pools.

Work remaining to complete portion of project in Rock Island District: None.

St. Louis District. Work completed: Major construction items, including all locks and dams, are completed and in operation, with the exception of the remaining work at Melvin Price.

Status of land and flowage acquisition:

Acquisitions of land in Pools 24, 25, and 26,

involving 4,448 acres of land in fee and flowage easements over 6,600 acres, is complete. A total of 4,201 acres has been acquired for the Melvin Price Locks and Dam project.

Condition of channel at end of fiscal year:

The controlling depth of nine feet at low water and generally suitable widths for long-haul common carrier services were maintained in all pools and between Melvin Price Locks and Dam and Missouri River.

Work remaining to complete portion of project in St. Louis District: Work remaining at the Melvin Price Locks and Dam project includes the visitor center exhibits for the main lock and implementation of remaining required fish and wildlife mitigation measures for the second lock.

TABLE 17-A COST AND FINANCIAL STATEMENT

Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost to Sep 2003
Mississippi River between Missouri River and Minneapolis, Minnesota (Federal Funds)	New Work: ¹					
	Approp. ²	\$1,776,000	\$1,303,000	\$478,000	\$1,795,000	\$1,301,260,429
	Cost ³	1,643,356	1,191,563	831,719	1,801,508	1,260,340,111
	Maint: ⁴					
	Approp.	106,677,912	107,764,009	106,618,874	100,599,267	2,198,055,247
	Cost	106,626,195	104,077,592	101,058,526	97,687,404	2,134,125,936
	Rehab:					
	Approp.	10,639,096	8,545,519	10,436,994	11,587,103	272,161,181
	Cost	10,630,585	8,075,066	11,034,714	11,557,751	272,711,720
	(Contributed Funds)					
(Inland Waterway Trust Fund)	New Work: ⁵					
	Approp.	0	0	500,000	500,000	3,041,140
	Cost	0	0	415,000	531,687	2,987,827
	Rehab. ⁶					
	Approp.	5,206,507	4,265,476	8,215,090	8,844,925	76,972,954
	Cost:	4,960,223	3,928,451	8,806,402	8,825,272	71,858,797

1. Includes \$15,476,259 for new work on previous projects.

2. Includes Melvin Price Locks and Dam funds \$945,157,700.

3. Includes Melvin Price Locks and Dam funds \$945,157,008.

4. Includes \$1,949,301 for maintenance on previous project.

5. Funds from Inland Waterway Trust Fund was included in with Contributed Funds up to 1998.

6. All Inland Waterway Trust Fund.

**TABLE 17-B TOTAL COSTS OF EXISTING PROJECT
TO SEPTEMBER 30, 2003**

District	Cost	Regular Funds	Public Work Funds	Emergency Relief Funds	Total
St. Paul	New Work ¹	\$ 60,184,246 ²	24,210,071	\$9,071,214	\$ 93,465,531
	Maintenance ³	934,462,426	--	--	934,462,426
	Rehabilitation	104,288,075	--	--	104,288,075
	Total	1,098,934,747	24,210,071	9,071,214	1,132,216,032
Rock Island	New Work ⁴	71,307,945 ⁵	17,403,322	11,338,865	100,050,132
	Maintenance ⁶	323,146,554	--	--	323,146,554
	Rehabilitation	117,855,999	--	--	117,855,999
	Total	512,310,498	17,403,322	11,338,865	541,052,685
St. Louis	New Work ⁸	974,261,824 ⁷	10,282,566	2,440,266	986,984,656
	Maintenance	383,263,730	--	--	383,263,730
	Rehabilitation	72,307,328	--	--	72,307,328
	Total	\$1,429,832,882	10,282,566	2,440,266	\$1,442,555,714

1. Excludes \$2,041,140 contributed funds. Includes \$7,673 expended in pool No. 11.

2. Includes \$159,359 transferred from Rock Island District covering pro rata share of cost of derrick boat Hercules.

3. Includes \$762,196 expended between 1930 and 1936 on operating and care of works of improvement under provisions of permanent indefinite appropriation for such purposes. Excludes \$797,670 contributed funds.

4. Excludes \$58,999 contributed funds.

5. \$687,709 was transferred to St. Louis District in fiscal year 1958. Excludes \$201,167 transferred to St. Paul and St. Louis Districts covering their pro rata share of cost of derrick boat Hercules.

6. Cost subsequent to FY 1953 included with operating and care. Includes the sum of \$395,442, expended between 1930 and 1934 on the operating and care of the works of improvement under the provisions of the permanent indefinite appropriation for such purposes.

7. Includes \$47,800 transferred from Rock Island District covering pro rata cost of derrick boat Hercules and \$687,709 transferred from Rock Island District.

8. Includes \$945,157,008 for Melvin Price Locks and Dam.

TABLE 17-C

LOCKS AND DAMS

Lock and Dam	Miles Above Ohio River	Miles from Nearest Town	Lock Dimensions			Upper Normal Pool Elevation ¹	Depth on Miter Sill		Character of Foundation Complete		Percent Locks, Dams, and Work in Pool	Year Opened to Navigation	Estimated Cost of Each Lock and Dam Including Work in Pool
			Width of Chamber (feet)	Greatest Length Available for Full Width (feet)	Lift (feet)		Upper (feet)	Lower (feet)	Lock	Dam			
St. Anthony Falls, upper Lock	853.9	In city of Minneapolis, MN	56	400	49.2	799.2	15.7	13.7	Some limestone, mainly sandstone. No piles.	Limestone.	100 ²	--	\$ 18,203,000 ³
St. Anthony Falls, lower Lock and dam	853.3	In city of Minneapolis, MN	56	400	26.9 ⁴	750.0	13.7	10.3	Sandstone. No piles	Sandstone.	100	1959	12,382,000 ⁵
Lock and dam 1	847.6	Minneapolis-St. Paul, MN	56	400	35.9 ⁴	725.1	13.5 ⁴	10.1	Rock and piles in gravel.	Piles in gravel.	100	1917	2,358,000 ⁶
Lock and dam 2	815.2	1.3 above Hastings, MN	56	400	35.9	--	12.5 ⁷	7.6	Piles in sand, silt and clay.	Piles in sand, silt and clay.	100	1930	6,492,000 ⁹
Lock and dam 3	796.9	6.1 above Red Wing, MN	110	500	12.2	687.2	16.0	15.1	Piles in sand, silt and clay.	Piles in sand, silt and clay.	100	1948	
Lock and dam 4	752.8	Alma, WI	110 ⁸	600 ⁸	12.2	675.0	22.2	13.0	Piles in sand, silt and clay.	Piles in sand, silt and clay.	100	1938	5,596,000
Lock and dam 5	738.1	Minneiska, MN	110	600	8.0	667.0	17.0	14.0	Piles in sand and gravel.	Piles in sand and gravel.	100	1935	4,865,000
Lock and dam 5A	728.5	3 above Winona, MN	110	600	7.0	660.0	18.0	12.0	Piles in sand and gravel.	Piles in sand.	100	1935	5,081,000
Lock and dam 6	714.3	Trempealeau, WI	110	600	9.0	651.0	18.0	12.5	Piles in sand.	Piles in sand.	100	1936	4,549,000
Lock and dam 7	702.5	Dresbach, MN	110	600	5.5	651.0	17.0	12.5	Piles in sand, gravel and silt.	Piles in sand and clay.	100	1936	4,874,000
Lock and dam 8	679.2	Genoa, WI	110	600	6.5	645.5	18.0	12.0	Piles in sand, gravel and silt.	Piles in sand.	100	1937	5,574,000
Lock and dam 9	647.9	3.3 below Lynxville, WI	110	600	8.0	639.0	18.0	12.0	Piles in sand, gravel and broken rock.	Piles in sand and gravel.	100	1937	6,061,000
Lock and dam 10	615.1	Guttenberg, IA	110	600	11.0	631.0	22.0	14.0	Piles in sand, gravel and broken rock.	Piles in sand.	100	1938	6,539,000
Lock and dam 11	583.0	3.7 above Dubuque, IA	110	600	9.0	620.0	16.0	13.0	Piles in sand.	Piles in sand.	100	1936	4,750,000
Lock and dam 12	556.7	Bellevue, IA	110	600	8.0	611.0	15.0	12.0	Piles in sand, gravel and silt.	Piles in sand.	99	1937	7,428,000
						603.0	18.5	12.5	Piles in sand, gravel and silt.	Piles in sand and gravel.	99	1938	5,580,000
						592.0	17.0	13.0	Piles in sand and gravel.	Piles in sand and gravel.			

TABLE 17-C
(Continued)

LOCKS AND DAMS

Lock and Dam	Miles Above Ohio River	Miles from Nearest Town	Lock Dimensions			Upper Normal Pool Elevation ¹	Depth on Miter Sill		Character of Foundation Complete		Percent Locks, Dams, and Work in Pool	Year Opened to Navigation	Estimated Cost of Each Lock and Dam Including Work in Pool
			Width of Chamber (feet)	Greatest Length Available for Full Width (feet)	Lift (feet)		Upper (feet)	Lower (feet)	Lock	Dam			
Lock and dam 13	522.5	4.3 above Clinton, IA	110	600	11.0	583.0	19.0	13.0	Piles in sand, clay and gravel.	Piles in sand and gravel.	100	1938	7,502,000
Lock and dam 14	493.3	3.7 below Le Claire, IA	110	600	11.0	527.0	20.5	13.5	Rock.	Rock.	92	1939	6,284,000
Le Claire Lock (Canal)	493.1	3.9 below Le Claire, IA	80	320	11.0	--	17.6	10.9	Rock.	Rock.	100	1922	-- ¹⁰
Lock and dam 15	482.9	Foot of Arsenal Island, Rock Island, IL	110	600	16.0	561.0	24.0 ¹¹	11.0	Rock.	Rock.	100	1934	14,201,000
			110	360	16.0	--	17.0 ¹¹	11.0					
Lock and dam 16	457.2	1.8 above Muscatine, IA	110	600	9.0	545.0	17.0	12.0	Piles in sand and gravel.	Piles in sand and gravel.	98	1937	9,788,000
Lock and dam 17	437.1	4.2 above New Boston, IL	110	600	8.0	536.0	16.0	13.0	Piles in sand and gravel.	Piles in sand.	99	1939	5,843,000
Lock and dam 18	410.5	6.5 above Burlington, IA	110	600	9.8	528.0	16.5	13.7	Piles in sand.	Piles in sand.	90	1937	10,308,000
Lock and dam 19	364.2	Keokuk, IA	110	358	38.2	518.2	4.5	9.2	Rock.	Rock.	100	1913	
			110	1,200			5.0	13.0			99	1957	¹⁴ 813,000 ¹²
Lock and dam 20	343.2	0.9 above Canton, MO	110	600	10.0	480.0	15.0	12.0	Rock.	Rock and piles in sand and gravel.	97	1936	6,281,000
Lock and dam 21	324.9	2.1 below Quincy, IL	110	600	10.5	470.0	16.5	12.0	Piles in sand and gravel.	Piles in sand and gravel.	95	1938	8,065,000
Lock and dam 22	301.2	1.5 below Saverton, MO	110	600	10.2	459.5	18.0	13.8	Rock.	Rock.	99	1938	5,275,000
Lock and dam 24	273.4	Clarks ville, MO	110	600	15.0	449.0	19.0	12.0	Rock and piles.	Piles in sand.	99 ¹⁴	1940	10,337,000
Lock and dam 25	241.4	Cap Au Gris, MO	110	600	15.0	434.0	19.0	12.0	Piles in sand and gravel.	Piles in sand and gravel.	99 ¹⁴	1939	13,694,000
Lock and dam 26 (Henry T. Rainey Dam) ¹⁵	202.9	Alton, IL	110	600	24.0	419.0	19.0	10.0	Piles in sand.	Piles and sand.	100	1938	12,824,000
			110	360	24.0	--	16.0	10.0					

TABLE 17-C
(Continued)

LOCKS AND DAMS

Lock and Dam	Miles Above Ohio River	Miles from Nearest Town	Lock Dimensions			Upper Normal Pool Elevation ¹	Depth on Miter Sill		Character of Foundation Complete		Percent Locks, Dams, and Work in Pool	Year Opened to Navigation	Estimated Cost of Each Lock and Dam Including Work in Pool
			Width of Chamber (feet)	Greatest Length Available for Full Width (feet)	Lift (feet)		Upper (feet)	Lower (feet)	Lock	Dam			
Melvin Price Locks and Dam	200.8	Alton, IL	110	1,200	24.0	419.0	23.0	18.0	Piles to bedrock.	Piles to bedrock.	98	1990	752,686,000
Melvin Price Locks and Dam (2nd Lock)	200.8	Alton, IL	110	600	24.0	419.0	42.0	18.0	Piles to bedrock.	Piles to bedrock.	93	1994	226,000,000
Total, Locks and dams													\$1,196,556,000

1. Elevation of Pools 1 to 22 and at St. Anthony Falls are mean sea level 1912 adjustment: Pools 24, 26 are mean sea level 1929 adjustment.

2. Includes existing dam, owned by Northern States Power Co.

3. Includes dredging above upper lock. (Federal cost only.)

4. Based on pool elevation 723.1 in Pool 1 which is crest of dam. Pool is normally maintained at elevation 725.1 by flashboards.

5. Includes lower approach dredging and dredging between upper and lower rock. (Federal cost only.)

6. In addition \$1,948,000 expended from previous projects and \$1,349,600 from O & M appropriation for first of twin locks. Excludes lock and dam rehabilitation program.

7. Old upper guard sill.

8. Landward lock.

9. In addition, \$1,965,300 expended from previous projects.

10. Existing Le Claire Canal lock is used as auxiliary to lock 14; previous project cost \$540,000.

11. Depth over upper poiree sill. Depth over upper miter sill is 27 feet, at lock 15.

12. \$640,868 for first lock was reported by Mississippi River Power Company, transferred to Government free in lieu of improvements destroyed. (Annual Report, 1928, pp. 1118-1119.) Present estimate includes \$13,132,600 for main lock and appurtenant work.

13. Includes cash contribution of \$4,900,000.

14. Complete except for guidewall extensions.

15. Lock and Dam 26 has been replaced by the Melvin Price Locks and Dam at which full pool was raised 1 February 1990. Lock and Dam 26 has been removed.

TABLE 17-D

HARBOR IMPROVEMENTS

Name	Miles above Ohio River	Location	Type	Project depth (feet)	Approximate size (feet)		Percent Complete	Estimated Cost
					Width	Length		
St. Paul Harbor, MN	836.5-839.2	In city of St. Paul, MN	Commercial	9	400-1,000	2.7(mile)	100	\$ 217,100
	839.7	Channel improvement, Small-boat harbor and channel enlargement.	Small-boat	5	300	400	100	230,200
Hastings Harbor, MN	813.2	Lower end of city of Hastings, MN	Small-boat	5	200	500	100	74,300
Red Wing Harbor, MN	791.4	In city of Red Wing, MN	Commercial	9	300	1,200	100	146,800 ¹
Red Wing Harbor, MN	791.1	In city of Red Wing, MN	Small-boat	5	450	800	100	8,700
Bay City Harbor, WI	785.9	Upper end of Bay City, WI	Small-boat	5	50-100	5,990	100	39,400 ²
Lake City Harbor, MN	773.0	In city of Lake City, MN	Small-boat	5	400	600	100	93,500
			Commercial ³	9	500	1,000	100	
			Small-boat ³	9	500	850	100	1,077,000 ⁴
Pepin Harbor, WI	767.1	In city of Pepin, WI	Small-boat	5	50	600	100	205,500 ⁵
Wabasha Harbor, MN	760.0	Upper end of city of Wabasha, MN	Small-boat	5	175-400	800	100	41,700
Alma Harbor, WI	751.3	Upper end of Alma, WI	Small-boat	5	300	500	100	56,300
Winona Harbors, MN	726.0	In city of Winona, MN	Small-boat	5	200	1,000	100	89,800
Lansing Harbor, IA	726.2	Crooked Slough	Commercial	9	200	6,000	100	84,700
	663.3	Upper end of city of Lansing, IA	Small-boat	5	170	500	100	95,300
Prairie du Chien Harbor, WI	635.5	Upper end of city of Prairie du Chien, WI	Small-boat	5	400	800	100	85,500
	635.0	In Marais de St. Friel East Channel below Hwy bridges.	Commercial	9	--	1,000 frontage	100	93,100
Dubuque Harbor, IA	579.4	At Dubuque, IA	Commercial	12	340	1,500	100	55,200
Savanna Harbor, IL	537.3	At Savanna, IL	Small-boat	5	280	910	0	310,000
Clinton Harbor, IA	519.0	At Clinton, IA	Small-boat	5	400	1,400	78	101,912
Moline Harbor, IL	488.0	At Moline, IL	Small-boat	5	230	660	100	110,328
Davenport Harbor, IA (Lindsay Park)	484.2	At Lindsay Park	Small-boat	5	200	1,150	--	262,100
Rock Island Harbor, IL	479.8	At Rock Island, IL	Entrance channel small-boat harbor	6	100	1,100	100	31,000
Andalusia Harbor, IL	473.0	Andalusia Slough	Small-boat	5	40	435	100	21,000
Muscatine Harbor, IA	455.5	At Muscatine, IA	Small-boat	5	150	950	100	353,000
	455.6		Freight terminal approach channel	9	200	1,890	100	
Fort Madison Harbor, IA	383.7	At Fort Madison, IA	Small-boat	5	250	900	100	184,200

**TABLE 17-D
(Continued)**

HARBOR IMPROVEMENTS

Name	Miles above Ohio River	Location	Type	Project depth (feet)	<u>Approximate size (feet)</u>		Percent Complete	Estimated Cost
					Width	Length		
Warsaw Harbor, IL	359.1	At Warsaw, IL	Small-boat	5	100	600	100	73,000
Quincy Harbor, IL	327.3	In Quincy Bay, IL	Small-boat	5	200-300	9,000	0	-- ⁶
Hannibal Harbor, MO	308.8	At Hannibal, MO	Small-boat	5	180-260	600	100	129,000
Total								\$4,269,640

1. In addition, local interests contributed \$3,455.
2. In addition, local interests contributed \$9,533.
3. Commercial harbor converted to small-boat harbor under authority of Section 107 of 1960 River and Harbor Act, as amended. Primary use is small-boat, although some commercial activity exists.
4. In addition, local interests contributed \$812,599.
5. In addition, local interests contributed \$32,344.
6. Maintenance only, estimated at \$5,000 annually.

TABLE 17-E **ADDITIONAL FEATURES ENTERING INTO
COST OF PROJECT**

Facilities for public use, convenience and safety	\$ 3,348,200
Rectification of damages caused by seepage and backwater	7,049,700 ¹
Regulating works between Melvin Price Locks and Dam and Missouri River	545,000
Improvement of Beaver Slough at Clinton, Iowa, for navigation	193,600
Miscellaneous	1,312,900 ²
Total additional features	12,449,400 ³
Total existing project (new work)	\$1,180,500,320

1. Includes a lump-sum payment of \$2,146,800 (O&M appropriation) paid to the Sny Island Levee Drainage District, IL, for rectification of seepage damages. Also includes \$140,000 Construction General funds for project studies, evaluation, and report preparation.

2. Includes \$686,500 for repairs to Stone Arch Bridge, Minneapolis, MN. (FY 1969)

3. Excludes \$227,000 (1965) for inactive remedial measures at Sandy Slough, MO.

TABLE 17-F **LICENSE FEES COLLECTED
FOR FISCAL YEAR 2003**

Dam	Licensee	Annual Charge
St. Anthony Falls Lower Lock and Dam	Northern States Power Co. (No. 2056)	\$ 3,300
Lock and Dam No. 1	Ford Motor Co.	95,440
Lock and Dam No. 2	City of Hastings, MN.	0 ¹

1. During the FY 2003 statement reporting period (10/01 to 9/02), the hydroelectric plant was still undergoing repairs from the 2001 flood damage and did not generate electricity, resulting in non government dam charge on 2003 statement.

TABLE 17-G **AUTHORIZING LEGISLATION**

Acts	Work Authorized	Documents
Sep. 22, 1922 July 3, 1930 as amended by P.R. No. 10, Feb. 24, 1932	MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN Dredging channels to landing places. Project adopted from Illinois River to Minneapolis; Chief of Engineers granted discretionary authority to make such modification in plan as may be deemed advisable. ⁴	None H. Doc. 290, 71st Cong., 2d sess.
June 26, 1934	Operation of snag boats and operation and care of locks and dams to be provided for with funds from Department of the Army appropriations for rivers and harbors.	None
Aug. 30, 1935	Missouri River established as lower limit of project.	H. Doc. 137, 72nd Cong., 1st sess.
Aug. 26, 1937	Extension of 9-foot channel above St. Anthony Falls, MN, including adequate terminal facilities for Minneapolis, MN	H. Doc. 137, 72nd Cong. 1st sess.
Aug. 30, 1935	St. Paul, MN harbor.	Rivers and Harbors Committee Doc. 44, 74th Cong., 1st sess.
Aug. 26, 1937	Determine damages to drainage and levee districts caused by seepage and backwater, and cost of making rectification thereof.	Rivers and Harbors Committee Doc. 34, 75th Cong., 1st sess.
Dec. 22, 1944	Public park and recreational facilities.	None
Mar. 2, 1945	Red Wing, MN harbor.	H. Doc. 103, 76th Cong., 1st sess.
Mar. 2, 1945	Remedial works to correct damages caused by seepage and backwater at Cochrane, WI	H. Doc. 137, 76th Cong., 1st sess.
Mar. 2, 1945	Such changes or additions to payments, remedial works, or land acquisitions authorized by River and Harbor Act of Aug. 26, 1937 (River and Harbor Committee Doc. 34, 75th Cong., 1st sess.), as Chief of Engineers deems advisable.	None
Mar. 2, 1945	St. Paul, MN channel enlargements, small boat harbor, and roadway.	H. Doc. 547, 76th Cong., 3rd sess.
None	Vertical bridge clearance at Minneapolis to 26 feet above estimated stage for discharge of 40,000 cfs	S. Doc. 54, 77th Cong., 1st sess.
Mar. 2, 1945	Winona, MN basin.	H. Doc. 263, 77th Cong., 1st sess.
Mar. 2, 1945	Future modification of lock and dam No. 2 for power development.	H. Doc. 432, 77th Cong., 1st sess.
Mar. 2, 1945	Provides for cash contribution by local interests in lieu of alteration of privately owned bridges and utilities for St. Anthony Falls project.	H. Doc. 449, 78th Cong., 2d sess.
July 24, 1946	Lake City, MN harbor.	H. Doc. 511, 79th Cong., 2d sess.
July 24, 1946	Wabasha, MN harbor.	H. Doc. 514, 79th Cong., 2d sess.
July 24, 1946	Payment of damages caused by backwater and seepage, Pools 3 to 11.	H. Doc. 515, 79th Cong., 2d sess.
July 24, 1946	Hastings, MN harbor.	H. Doc. 559, 79th Cong., 2d sess.
July 24, 1946	Lansing, IA harbor.	S. Doc. 192, 79th Cong., 2d sess.
June 30, 1948	Fort Madison, IA harbor.	H. Doc. 661, 80th Cong., 2d sess.
May 17, 1950	Payment of damages caused by pool No. 14 at Clinton, IA.	S. Doc. 197, 80th Cong., 2d sess.
May 17, 1950	Davenport, IA harbor.	H. Doc. 642, 80th Cong., 2d sess.
May 17, 1950	Muscatine, IA harbor.	H. Doc. 733, 80th Cong., 2d sess.
May 17, 1950	Alma, WI harbor.	H. Doc. 66, 81st Cong., 1st sess.

1. Deauthorized FY 75.
2. Inactive.
3. Deauthorized FY 87 (WRDA of 1986).
4. Guidewalls at Locks 3, 4, 5, 5A, 7, 8, 9, and 10 deauthorized FY 87 (WRDA of 1986).
5. Deauthorized FY 90 (WRDA of 1986).
6. Guidewall extensions at Locks 16, 18, and 21; construction of mooring facilities at Locks and Dams 11, 12, 14, 15, 16, 17, and 18; upper approach improvement at Lock 19 and Lock and Dam 20; and rock and/or conglomerate excavation in Pools 14, 18, and 21 deauthorized FY 90 (WRDA of 1986).